Lecture
ON
HYGIENE.

Delivered at St. Bartholomew's Hospital.

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GENTLEMEN,—The chapter of hygienics I open to-day—Poisonous Infecting Principles as the Determining Causes of Disease—may, I hope, prove interesting and profitable to you. Fertile or communicable disease is man's own fault, indeed may be regarded almost as the penalty incurred by ignorance, indolence, and vice.

The specific contagia are known only by the reactions or symptoms of disease which they produce. I cannot show them all to you labeled in bottles, or under microscopes, although certain of them have been so far separated and attached to lymph as to be carried about on ivory points, while others can be shown to exist by experiment in a mere drop of fluid.

The specific contagia all have two phases of existence—an active and a dormant state. In their active state they multiply themselves, and communicate change to living fluids or tissues into which they pass; in their dormant state they simply resist destruction. There may be perhaps three stages in the life-history of every contagium—a germ or seed stage, a plant or organism stage, and a fructifying or flowering stage.

At the outset we perceive that the reactions or symptoms determined or developed by different contagia differ in several respects. Thus, one class of infective poisons render the body inapt for future turmoils or changes of the same kind; they enter the body and leaven the whole mass; as crops produced by vegetable seed, they exhaust the soil, and at all events leave an impression or effect behind them which is slowly, rarely, or never afterwards effaced. They enter the body and shut the door upon themselves. The term zymotic has been attached to the diseases thus provoked, and we can take no exception to the term as a descriptive one. Small-pox, syphilis, measles, scarlet fever, typhus, and typhoid, are of this kind.

The other class of infective poisons provoke their peculiar or specific reaction directly they enter the body, but the change they determine in it leaves this more rather than less prone to future reactionary disturbance of the same kind. The disease they provoke does not secure future immunity; the soil is left fertilised rather than sterilised by these germs having intruded themselves; the door is left open for fresh raids. Septicæmia, pyæmia, erysipelas, gangrene, ague, and gonorrhœa, are diseases determined by this class of poisons, which may be very properly called septic.

Experiments show that out of apparently harmless materials, and with the fulfilment of certain essential conditions, septic poisons of well-established virulence can be developed. But one of the conditions proves to be the addition of bacteria germs; and, although these are omnipresent in ordinary air and water, they cannot be pretended to be spontaneously developed; they are derived always from pre-existent bacteria. The zymotic contagia, so far back as the history of disease extends, never appear to have originated *de novo;* like has always produced like; and wherever any outbreak of zymotic disease has been investigated with sufficient care, its arrival has been traced to some previously infected poison or clothing.

Towards the identification of different diseases, precise definitions, stating what nexus of symptoms and pathological changes shall be held to constitute the particular malady to which a particular name is attached, are required.

By specific disease I wish you to understand me to mean not syphilis merely, but every disease that answers completely to any special and appropriate definition. The number of diseases of which our knowledge can be affirmed to be complete is not so very many, but when a disease is constant in form, regular in all its phases, true to type in all its reactions, or varies from its prototypes very insignificantly, it may be termed specific. When one and the same contagium or poison enters animal bodies similarly constructed, endowed, and chemically constituted, the results are, within small variation, the same. Like produces like in the human body, just as surely as in the mixture of two test fluids in the laboratory. Indeed, the symptoms of the several contagium-determined diseases differ really less than do many chemical reactions. Every communicable or infective disease may be as reasonably assumed to have a special poison entity of its own as to possess separate or specific existence.

That you may gain precise ideas about these specific poisons, and the reaction they excite, I wish you to study them as you would any other well-ascertained poison. First, as to local and remote action. The local action, except in the instance of the distinctly enthetic poisons, like vaccination, hydrophobia, the septic prick or dissection wound, is attended by slight apparent disturbance, and no very particular sensations; but there is a remote action, provoked in common by both septic and zymotic poisons, when these have profoundly altered the normal nutritional interchanges. The sense of cold and collapse is what I refer to, and the tendency to death by asthenia or failure of the heart's action.

There are further features of difference between the zymotic and septic poison-determined reactions in the human body to which I desire to direct your attention. The zymotic contagium, be this what it may—some modified blood or soluble animal cell, some fungus or low vegetable germ, zoospore, or microspore,—requires cooking or hatching for a certain period of time in the individual who has received it before any apparent change or reaction can succeed. Some period of incubation must elapse during which the poison infects or impregnates the whole system before this manifests its presence by symptoms; but when the reaction is manifested, it is general at once throughout the body. So soon as the poison begins to work its changes, indefinite symptoms may arise, such as are common to all grave blood changes, and are non-appointing. You will have often heard me say at the bedside that a patient appears to me suffering from a general reaction to some one of the exanthemata contagia, which one I cannot tell until the rash comes out.

Three stages may thus be distinguished in the history of zymotic poisoning—(*a*) A dormant stage without symptoms; (*b*) an incubating stage with general symptoms; (*c*) a specific stage with special appointing symptoms.

No such separate stages can, I think, be observed in disease produced by septic poison. It is true that the poison of erysipelas, septicæmia, hydrophobia, sometimes lies latent in the body into which it has been inserted, but this latent period is non-essential; nay, rather it may be regarded as accidental, for from the first instant the poison reaches vulnerable surfaces, the reaction commences, the body is forthwith infected. A late or deferred reaction is apparently only due to encapsulation of the poison at the poison wound, its separation really from the body by a limitation barrier. Within such a capsule the poison germs lie like seeds inside a seed-case. Furthermore, in septic disease the reaction process first manifests itself at the point where the virus is inserted, and spreads from this focus, gathering force as it goes. There is no incubating stage—the specific symptoms follow at once. We perceive next that the quantity of virus or poison inserted makes absolutely no difference to the total sum of the reaction or specific symptoms provoked in the instance of zymotic disease, whereas both the form and quantity of the septic poison materially influence the course and gravity of the reaction induced. Finally, in both septic and zymotic disease we perceive a conflict between the stability of the poison entity and the stability of the person poisoned, but a conflict with this remarkably different issue, that the zymotic poison always vanquishes the body and leaves its stamp or mark upon it, whereas the septic poison is either vanquished and cast out, or obtains predominance, corrupts and destroys the individual.

The conditions which modify symptoms or reactions in the example of ordinary poisons should be well remembered by those among you who attended this special part of my course on Forensic Medicine. They were:—1st. *The form and quantity of the poison.* This holds true of the septic but

not of the zymotic poisons. 2nd. *The site where the poison gains entrance into the body.* This affects the period of reaction—the time which elapses between the infection and the development of the symptoms,—but certainly not the nature of the reaction in zymotic disease, and probably not in septic disease. 3rd. *The condition of the individual infected, idiosyncrasy, present state or habit of body.* That this influences the reaction in the cases of both zymotic and septic poisoning is certain.

The processes of disease set in motion by septic poisons begin by local manifestations at the spot where the poison is inserted and extend from thence, and as the pathological process travels onwards, implicating further tissues, those first involved may, as we see constantly in erysipelas, have shaken off the poisonous reaction. The septic reaction, then, travels from a focus, and, as a rule, gathers strength as it extends—*vires acquirit eundo.* Far otherwise is it with the zymotic reaction. This begins at the periphery, not at the centre of insertion; and from the first moment that the specific poisonous effects, as of measles or small-pox, are manifested, there is no part of the body free from contamination.

Now it is highly probable, as Dr. B. Sanderson's experiments tend to show, that septic animal poisons gather virulence or poisonous energy by every separate living organism that they pass through. He showed that fluids taken from the abdominal cavity of animals in which peritonitis had been artificially produced—i. e., traumatically induced, as by injection of caustic ammonia—would serve, if brought into contact with the peritoneum of a sound animal, to provoke peritonitis in the latter. With the fluid, again, derived from this second animal (B), in his series, a third (C) was inoculated, and so with several animals in succession, each deriving the poison one from the other. He observed that the poison gained in virulence, so that smaller quantities produced death, and this death followed at a shorter period from the insertion of the poison in the animals that were inoculated latest in the series. The experiments were of a most instructive nature; for in the reaction induced in the early cases, when the poison might be regarded as most crude or least distinguished from a mere traumatic fluid, metastatic abscesses or scattered pyæmic deposits were provoked; whereas in the cases late in the experimental series the animals died quickly, manifesting those pathological changes which appoint pure septicæmia.

It has been long since ascertained that by overcrowding patients in hospitals and allowing a surplusage of purulent and stinking wounds in hospital wards, pyæmia, septicæmia, dysentery, hospital gangrene, and accidents *de pourriture* can be provoked. Further events follow too: ordinary complaints which usually are not dangerous assume a low typhoid form; tonsillitis and diarrhœa prevail among the nurses and attendants; erysipelas follows the slightest skin lesion; and peritonitis succeeds nearly every parturition. The medical officers of lying-in hospitals inform us that peritonitis after parturition is one of the most communicable poisons with which they are acquainted, and that cases of distinctly traumatic peritonitis have apparently given origin to epidemics of puerperal peritonitis of greatest malignancy.

It appears to me that Dr. Sanderson's investigations and experiments justify me almost in assuming that the form and quantity of septic poisons influence the course and issue of septic disease. Now I am jealously sceptical always of the idea of a conversion of one animal poison into another, but I am ready to admit that at the spot where a septic poison is planted on the body, the nature of the absorbing surface must modify the dose, and may therefore influence the reaction, and thus lend an altered aspect to the symptoms. These, however, it influences in degree, but not in kind. It may be pleaded that one and the same poison planted on a tonsil would provoke tonsillitis of a low malignant type; that, having alighted on the intestinal tract, it might excite diarrhœa or dysentery; falling upon an abraded surface, gangrene; reaching the interior of a vein, thrombosis; entering a lymphatic channel, erysipelas. This variation of the reaction according to the site upon which the poison germ alights is for some persons a very attractive theory; but there are certainly no grounds for this belief in cases of zymotic poisoning, and I should advise you to remember that it is wholly unproved so far as the septic contagia are concerned.

I do not pretend to draw a line myself between septicæmia and pyæmia; but between erysipelas and septicæmia, puerperal peritonitis, gangrene, and dysentery, all septic diseases, I perceive at least distinction enough to hold each specifically separate.

Each infective disease whose symptoms are precise and definable may with reason be attributed to a special determining cause or specific virus. There is probably less difference between the specific poison germs which provoke the different septic diseases, than between those which determine the distinct zymotic diseases, and because septic disease does not sterilise the land before it, two or more septic poisons may provoke their reaction in the same body simultaneously. But no two zymotic poisons implanted on the same individual at the same time ever run their course together; one only can fructify or incubate. Either the syphilis or the vaccination reaction will ensue, the small-pox or scarlet fever, the chicken-pox or measles, the enteric fever or typhus; but no crosses. No hybrid diseases are possible. This appoints the universal influence of the poison at the period of reaction.

From facts recorded of infection and poisoning by communicable disease, it is reasonable to believe that different animal contagia have different atomic forms, different atomic weights, distinct vitalities, resist destruction differently; are some direct or immediate, some indirect or intermediary in their course from their starting to their sticking point, from their discharge from the first infected individual to their arrest in the wounded person. Let us inquire into all these matters.

For communicable disease to spread, three things are requisite: (1) an infecting poison, an animal cell or graft, some germ or microspore, or some potential fluid; (2) some means of connection or insertion of this poison; (3) receptivity or aptitude in the person who receives this poison.

If the atomic form of the poison is large, it may be believed to be heavy; the larger, the heavier, and more tangible it is, the less readily will it travel from person to person. The contagiousness of the disease communicated will therefore appear immediate or most direct: those nearest in contact with the infected person will suffer most. If, although heavy, its vitality is great, it may be conveyed about by clothes or fomites. If its vitality is small and it is quickly destroyed by diffusion through air or water, it will not travel far, and must be inserted quickly in a fresh body to provoke its special reaction.

There is much reason to think that the plague-poison, syphilis poison, the small-pox and typhus poison, is of this heavy form and low vitality. But the poison of cholera and typhoid fever is probably an example of a lighter, subtler substance, and one of greater vitality; since, although sometimes carried into the body by food or water contaminated by human alvine excreta, the cholera poison is probably also borne in the blue mists observed in most cholera epidemics; and neither the cholera nor the typhoid poison appears to be destructible, although diluted in any quantity of cold water. The syphilis poison probably quickly loses its vitality or propagating powers; once dried, I believe its life-history is ended. But the variola and varioloid poison may be dried, and, if neither frozen nor overheated, like mummy grain, it will certainly retain its infecting properties for years. So, too, the scarlet-fever, yellow-fever, plague, and typhus poisons can lie dormant in a drawer or cupboard for weeks, or months, or years, awaiting the conditions which shall favour future development. The plague is said to have broken out afresh after a hundred years in consequence of the re-opening of a plague pit.

While most poisons are direct, although of greater or less vitality, it is possible that some require the fulfilment of some special developing conditions between the time of their discharge from one individual and their insertion into another.

COFFEE TAVERNS.—Lord Shaftesbury, in opening a coffee tavern in Portsmouth on Tuesday afternoon, urged that in the interests of the working classes themselves it should be made self-supporting. He impressed upon the meeting the importance of responsibility, and contended that there was none too humble to help forward the cause of temperance and religion. The spirit of the times was becoming more and more democratic, and other organic institutional changes were imminent, but with the cultivation of high principles and moral control on the part of the people he was not afraid of a still further extension of political power.

THE IDENTITIES OF CEREBRO-SPINAL MENINGITIS, DENGUE, AND YELLOW FEVER.

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(Continued from page 692.)

THE blood changes in the sympathetic fever of chronic disease are most insidious and uncertain. A very popular commodore, in December, 1846, the subject of prostatic disease, had, at the official residence in Port Royal, some sympathetic fever, which ended fatally with black vomit.

Mr. J. F. M——, aged twenty-two, assistant-surgeon, doing duty in the hospital, was put on the sick-list on Nov. 8th, 1840. He complained of frontal headache and orbital pains, throbbing of the carotid and temporal arteries; tongue white; pulse quickened; skin warmer than natural; thirst, languor, and debility. Had three cathartic pills last evening, which operated twice. Skin pungently hot and dry; pulse 108, full and bounding; headache urgent; conjunctiva injected; ideas confused. Bleeding to fifteen ounces.—Nov. 9th: Slept a good deal; sleep disturbed by dreams; less headache; tongue white and dry in the centre; skin not so hot, but dry; bowels twice freely moved; pulse 98; blood buffed; drowsiness. At midday the eyes were injected; skin dry and hot, pulse 108, jactitations, throwing off the bedclothes, aversion to answering questions, and scarcely collected in his replies; cannot be prevailed on to take nourishment. Bleeding to twelve ounces.—10th: Had some disturbed sleep during the night; skin cooler this morning; headache removed, but has heaviness over the eyes and drowsiness; pulse 84, soft; vomited some watery fluid in the night; tongue dry at the apex; bowels moved four times.—11th, 5 P.M.: Has had several hours' sleep, but does not feel much refreshed; skin warm; pulse 90; stomach retentive; thirst continues; bowels moved five times, motions gelatinous; ideas confused; ate some soup with a good appetite; feels very weak.—12th: Had some sleep, and says he feels better; skin of its natural temperature, but dry; pulse 92; inside of the mouth sore; gums a little tumefied; bowels moved twice in the night, motions gelatinous; some appetite; lips parched. 5 P.M.: Has been wandering at times during the day, and is occasionally incoherent; skin warmer than natural; pulse 104; one motion since noon; thirst urgent; conjunctiva of a deep-yellow tinge.—13th: Has been delirious all night, and got out of bed; is now more collected; tongue foul and dry; sordes collected on lips and teeth; skin of natural temperature; pulse 104; bowels not moved; had some imperfect sleep towards morning. 5 P.M.: Slept from 8 A.M. to 3 P.M., when he awoke and fell into a state of stupor. The forearms cold and covered with clammy perspiration; can with difficulty be roused to answer questions; pulse 132, and very weak; breathing oppressed. 8 P.M.: Continues in a state of stupor from which he cannot be roused; has taken a little wine at intervals.—14th, 2 A.M.: Extremities becoming cold; pulse nearly imperceptible. 7.5 A.M.: Died.

Necropsy.—Vessels of the pia mater much congested; effusion of blood into the posterior part of the longitudinal sinus, from which and from the spinal canal about three ounces of serum escaped; numerous red spots observed on making a transverse section of the hemispheres of the brain. About a drachm of serum in each of the lateral ventricles; the fourth ventricle full of serum. Substance of cerebrum soft and easily broken through. The lungs healthy; pleuritic adhesions at one spot anteriorly. The liver of a mottled brown and yellow colour; its peritoneal coat easily separable; its substance especially soft and friable at the upper part of the right lobe; on section its colour nearly resembling that of gamboge. The gall-bladder full of dark, pitchy bile; ducts pervious. The stomach contained about three ounces of black vomit; presented the usual appearance in yellow fever, with much venous congestion about the cardiac orifice; mucous coat softened; much congestion of mucous coat of small intestines. Spleen of its natural size; urinary bladder healthy.

This case was treated by hot baths, two bleedings from the arm, purgative doses of calomel, quinine in six-grain doses, blisters behind the ears and to the nape of the neck, cold applications to the shaven head, soup, arrowroot, wine, and brandy. The cerebral symptoms, with jactitations, find their explanation in the autopsy. The gelatinous stools noted most probably were in greater part blood decolorised. American authors have recorded the "white vomit" in yellow fever cases.

H. E——, aged fifty, seaman, was received into hospital on Oct. 9th, 1841, with acute inflammation of the right eye, for which leeches, blisters, and mercury to ptyalism were employed. A month after being in hospital symptoms of fever appeared, with shivering, hot flushes, succeeded some hours after by copious perspiration and sleep. On the second day of fever there was hot and open skin. On the third day of fever he had bilious vomiting and tremor; the next day much purging, feeble circulation, and complained of weakness. On the fifth day frequent pulse and purging of blood. (Is this purging of blood the result of calomel or not?) On the sixth day oppressed breathing, feeble and quickened pulse (bad signs). On the seventh day sleeplessness and incessant purging of blood; took some spiced wine. He continued sensible up to twenty minutes before death, which took place at 6.5 A.M. on Nov. 16th.

Necropsy.—"Yellow suffusion of the body, more especially of the face and neck. On removing the calvaria about eight ounces of bloody serum escaped, which, from the depending position of the occiput, it is probable came chiefly from the spinal canal. Vessels of pia mater much congested. Numerous red spots observed on section of the cerebrum. Lateral ventricles nearly filled with serum. Lungs healthy. Right pleura costalis adherent throughout. Pericardium contained about two ounces of deep-yellow fluid. Heart of its natural size, somewhat softened; small deposit of osseous matter on the inner side of left ventricle near its junction with the mitral valve. Right lobe of liver enlarged and softened; its entire substance of a fawn colour. Gall-bladder full of dark-green inspissated bile; ducts pervious. Stomach containing nearly a pint of black vomit; mucous coat congested. Spleen very soft and easily broken through. The mucous coat of the ileum and colon much congested, that of the colon having a ruddy colour interspersed with a yellow tinge. Kidneys and bladder healthy."

This was a case where prolonged chronic illness ended in a fatal attack of fever. Ptyalism was early induced, but *this popular mercurial delusion* did not save the patient.

The first report of the following fatal case of fever was from the surgeon of M.H. ship *Magnificent*, receiving ship off Port Royal, April 2nd, 1840:—"J. M——, aged sixteen, was put on the sick-list yesterday with mild febrile symptoms, which have increased since the morning, attended with drowsiness and debility. His bowels have been freely evacuated, and since noon has had calomel in five-grain doses every two hours. 5 P.M.: In hospital. Was attacked yesterday with the usual symptoms of fever; now complains of frontal headache and general languor; heat of surface slightly increased; eyes vascular; pulse 90; tongue furred and dry in the centre; tenderness at the epigastrium on pressure; bowels three times moved since the morning; drowsiness; thirst.—April 3rd: Had some sleep in the night. No reference to local pain; skin cooler; pulse 96; tongue moist in the centre and furred near the edges; some thirst; drowsiness continues; bowels moved four times; *vomited some watery fluid mixed with flocculi; motions chocolate-coloured.* 5 P.M.: Has been throwing up the matter of black vomit frequently during the day. Has a tendency to coma and aversion to answering questions. Skin of its natural temperature; pulse 108; extremities warm; passes his motions in bed; apparently sinking rapidly; rejects his medicine.—4th, 6.30 A.M.: Moribund; pupils dilated; teeth covered with black sordes; pulse at the wrist gone; extremities cold; motions passed in bed; cannot swallow. Expired at 8.10 A.M.

"*Autopsy.*—A slight yellow tinge of the skin of the face, neck, and chest. Pleuritic adhesions in right side of chest; both lungs congested with dark-coloured blood. Muscular structure of heart a little softer than natural; some fibrine in the right auricle and ventricle. Liver of a light-yellow colour, parenchyma softened. Gall-bladder flaccid, nearly empty, containing about half a drachm of viscid dark-green bile. Cysto-hepatic and common ducts pervious. Spleen of natural colour and ordinary size. Pancreas healthy. Large portion of mucous membrane of stomach reddened,

being the capillary vessels filled with blood; this coat softened. A pint of the matter of black vomit in this viscus. The whole tract of the colon, when laid open, showed the mucous coat of a deep-red colour, and no ulceration observed. Kidneys and urinary bladder healthy.

"The matter of black vomit was ejected from the stomach within twenty-four hours after admission to hospital, and death ensued in twenty-four hours subsequently. The patient must have been ill previous to the reported period of invasion."

Boyhood here soon succumbed. Had the head been examined, the cerebral symptoms and muscular weakness would have found an explanation. No calomel was given in hospital, but saline stimulants with wine and brandy. Fibrinous clots I once found so distending the appendices auriculæ that on opening the pericardium it appeared like some abnormal distension of the entire heart, but these appendices auriculæ were only fulfilling their intentions of safety.

The autopsies of the following cases were made by me at the Naval Hospital of Jamaica. In the first case no treatment had been adopted, and morbid specimens were sent to the museum of Haslar Naval Hospital.

J. L——, aged thirty, was admitted at noon the 1st of April, 1847. A distressed British subject, and lately belonging to H.M. ship *Endymion*, but this morning found in a house in Port Royal in a state of delirium of twenty-four hours' duration. Has had frequent vomiting of a dark-coloured grumous fluid, yellow suffusion of the skin and conjunctivæ, tenderness of the eyeballs, singultus, pupils dilated and insensible to light. Is incoherent; countenance anxious. Respiration 38 per minute; skin hot; pulse 84. April 2nd, 2.30 A.M., died.

Autopsy, four hours after death.—Cadaveric rigidity is complete. The head and trunk have a jaundiced, yellow colour. On the lower limbs and the back are occasional patches of lividity. The mucous membrane of the mouth, especially the labial, is covered with dark-coloured blood. The cellular tissue throughout is yellow, and the muscular fibres of a bright pink, with an occasional tinge of yellow. There is effusion in the cavity of the arachnoid. The vessels of the pia mater exhibit signs of recent and very vascular action. The small veins between the convolutions were very much congested, and there poured forth a quantity of sanguinolent fluid on pressure. The brain-substance appeared of natural firmness, and the puncta vasculosa were very numerous. The lateral ventricles contained some yellow serum. The cerebellar fossæ and spinal canal were filled with yellow serous fluid. The pericardium contained two ounces of yellow serum. The fibres of the heart were of a yellow colour; its cavities were empty. The lungs were much gorged with blood, and the mucous membrane of the trachea was of a reddish colour. The coats of the intestines were of a greenish tinge. The mucous membrane of the stomach was of a dusky-red colour, and contained about a pint of bloody-looking black fluid. The mucous membrane of the rest of the intestinal canal was of an ashy colour. The liver was abnormally adherent to the diaphragm at its upper surface, of a bright-fawn colour, and friable. The gall-bladder contained some dark-coloured bile, and its ducts of communication with the liver and duodenum were pervious. The spleen was enlarged and friable. The kidneys were of a bright pinkish tinge, and the urinary bladder was empty.

J. L——, aged twenty-two, seaman of H.M.S. *Endymion*, presented himself this morning (April 2nd, 1847) with frontal headache, pain of the back, and general debility. Tongue white; pulse full. Was bled to sixteen ounces, and took ten grains of calomel with compound jalap powder. 6.30 P.M.: Complains of pain of the forehead. Skin rather warmer than natural. Pulse 72, full. Had pains of the epigastrium, which had been relieved since the hot bath. Vomited repeatedly during the day. Bowels freely opened. Tongue moist and coated.—April 3rd: Had some sleep during the night. Headache and orbital tenderness continue. Heat of surface rather above natural, without pungency. Temperature by thermometer 99°; pulse 72. Stomach retentive; bowels open. Tongue slightly coated, tremulous. Thirst moderate.—4th: Slept well. No headache. Slight orbital tenderness. Skin warmer than natural. Temperature 99° F.; pulse 98. Bowels open. Stomach in the early part of the evening was irritable, but was relieved by a sinapism, and is now retentive. 5 P.M.: Has been drowsy all day, and troubled with dreams. Has no pain. Skin hot and dry. Temperature by thermometer 102°. Thirst moderate. Tongue slightly coated. Bowels open. Pulse 78.—5th: Had some sleep. Complains of general pains of the chest. Is inclined to be delirious. Heat of surface continues; temperature by thermometer 100°. Thirst urgent. Pulse 84. Tongue red at the edges. Bowels confined. 5 P.M.: Wandering at intervals during the day. No pain. Less heat of surface. Conjunctiva yellow, with general yellow suffusion of the skin. Pupils sluggish. Pulse 90, full but soft. Thirst moderate. Bowels twice moved, and stomach retentive.—6th: During the early part of the night was in a state of muttering delirium, picking at the bedclothes. Is at present quieter; drowsy, and answers questions rationally. No pain. Heat of surface keeps up; temperature by thermometer 99°. Thirst troublesome. Pulse 114, with less power than yesterday. Bowels open. Tongue dry. No appearance of ptyalism. 5 P.M.: Talking incoherently during the day at intervals. Heat of surface. Pulse 116, small. Stomach inclined to be irritable. Tongue red and dry. Has singultus. 7 P.M.: There is general perspiration. Pulse 112, very small and compressible. The extremities are warmer. 10 P.M.: Respiration much hurried. Countenance sunken. Partial sweating about the mouth and neck. Lower limbs becoming cold. Midnight: Cold and profuse sweating. Breathing stertorous, short and laboured. Frequent hiccough. Pulse very quick, and intervals scarcely appreciable.—7th, 2.30 A.M.: Died.

Autopsy, six hours after death.—The surface of a jaundiced yellow colour. On the back and lower extremities are patches of a livid, dusky red. The muscular fibres are of a pinkish tinge. The mucous membrane of the mouth of a dark sanguinolent colour. The cavity of the arachnoid contained some sanguinolent serum, and the small veins between the convolutions were filled with blood. The pia mater evidenced signs of recent vascular action. Sanguinolent serum in large quantities came from between the convolutions of the brain on pressure. The lateral ventricles contained some amber-coloured serum, but in the left some recently effused lymph. The hemispheres in section were deficient in firmness. The puncta vasculosa were very numerous. The spinal canal was filled with serum. The pericardium contained half an ounce of yellow serum, and thicker than usual. Heart natural. The right lung congested, and some old pleuritic adhesions existed. The left lung was slightly congested. The liver was enlarged, weighing four pounds and twelve ounces, of moderate friability, and of a light-fawn colour. The gall-bladder contained some inspissated bile. The spleen healthy. The stomach contained about half a pint of black fluid, with particles resembling coffee-grounds. The coats of the intestines were of a reddish tinge, and the mucous membrane of the stomach and intestines was covered with reddish-brown patches. The kidneys were congested, and of a bright-red colour. The urinary bladder was empty.

This case was treated with calomel every four hours, but at night, if asleep, the patient was not disturbed to take medicine, and it is noted that on the fifth day there was no ptyalism. The bleeding from the arm was carried out before going to the hospital. The irritability of the stomach and free action of the bowels may in greater part have been due to the calomel. The drowsiness, the drawling manner of speaking, the sluggish, stiffened motions of the limbs observed by me, told of incipient spinal and cerebral effusion. The yellow suffusion and orbital tenderness progressed with the case. The thermometer beneath the tongue gave no high reading. The blood-poisoning was evidenced by the later symptoms and by the appearances of the brain and intestines—parts plentifully supplied with blood. I have heard the late Dr. Addison say that a medical man was usually well informed on a disease from which he had been suffering. In November, 1846, I had for the first time fever at the Naval Hospital, Jamaica. Fifty grains of calomel in ten-grain doses were given me, and from the painful retching and distressing hypercatharsis following this medicine I resolved never to take it again—to use Dr. Addison's words when lecturing on therapeutics—"except by mistake." In November, 1847, I was ill with the second attack of fever, when fever cases from H.M.S. *Pantaloon* were in hospital. I expressly desired to have no calomel given me, which request was kindly acceded to. Even at this distance of time I well recollect the cerebral and spinal symptoms; the drowsy, dreamy state, but much disturbed by neuralgic pains of both forearms, and this followed by profuse perspiration and a full crop of lichen tropicum on the trunk.

A most unusual companion to me in health was the familiar "prickly heat." But after being conveyed on board a Royal mail packet for passage to England, I then learned how very near my case had been fatal, for the first evacuation by stool evidenced "black vomit," or blood thrown out from the colon, in appearance not unlike the confectio rosæ caninæ. Micturition was difficult, except in the erect position. Had blood been thrown out on the mucous membrane of the small intestines, from its proximity to the lacteal vessels, I fancy it would have been fatal. Had calomel been given in ten-grain doses, the digestive tract would have been so weakened as to have precipitated a fatal result.

(To be continued.)

THORACENTESIS IN PHTHISIS.

BY A. D. LEITH NAPIER, M.D., C.M.

WHILE the pathology of phthisis has advanced greatly of late years, comparatively little has been done in endeavouring to innovate on the stereotyped treatment. As a step in this direction I desire to record the following:—

Jane M——, aged eight and a half years, the child of poor parents residing in Fraserburgh, took ill during the spring of 1877 with "a bad cold"; after some time she became so ill that she was frequently confined to bed. I was asked to see her in December, 1877, and then diagnosed pneumonic phthisis of the right lung, and also, to some extent, of the left. I have no notes of these observations, but from memory state that the right lung seemed almost wholly solidified, except at the apex, where gurgling was heard. I saw her again a day or two after my first visit, and, finding my services useless, as she persistently refused all medicine, requested the parents to let me know if she became worse.

I was asked to visit her again on the evening of Feb. 3rd, 1878, and did so about 9 o'clock. I found, in addition to greatly increased emaciation, and still further deterioration of the left lung, a large swelling, about the size of a big orange, over the anterior right chest, the upper border arising below the second rib. I was informed that "the lump" began to form ten days previous to my visit, and had "increased greatly in size the last day or two." Coughing gave a marked impulse to the tumour; amphoric breathing was very loud in the right subclavian region; tinkling was not heard, but, owing to the extreme prostration of the child, only a cursory examination was made. The pulse was upwards of 140; respiration 60. I ordered wine and milk, as much as could be taken.

Feb. 4th.—A very bad night had been passed, the attendants having frequently looked for immediate death. About a cupful of milk and three ounces of sherry wine were given through the night. Very urgent dyspnœa and orthopnœa were the predominant symptoms, and I determined to evacuate the swelling, which was clearly filled with pus. Assisted by Mr. Mellis, the following procedure was carried out. I introduced a large trocar and cannula into the tumour; on withdrawing the trocar only two or three drops of pus flowed, when the cannula became blocked up with thick pus, which a probe could not break down. I then made a valvular slit, fully half an inch in length, by means of a straight bistoury. A very large quantity of thick pus escaped. The wound was then covered with carbolic plaster, which was fixed in position, and a pad and roller applied. The whole operation was conducted under carbolic spray. Immediately after the escape of pus the patient was greatly relieved and the breathing decidedly easier.

5th.—Pulse 130. Has had a much better night; is breathing without difficulty, and has taken a fair quantity of gruel, milk, and wine since yesterday. Evening: Pulse 126.

6th.—Pulse 120; respiration 48. Pus has escaped in very large quantity from the wound, the bedclothes being actually soaked. Evening: Pulse 120; respiration 50.

7th.—Pulse 140; respiration 60. Child looking emphysematous. When she moves the dyspnœa is apt to return, but only then. Wound dressed under carbolic spray; opening evidently closed. Evening: Pulse 120; respiration 56. Had a loose stool in the morning; no micturition since. Has been taking wine and milk freely through the day.

8th.—Pulse 116; respiration 48; temperature 98·5°. Has taken nourishment through the nigh; is very weak, but perfectly easy. Evening: Much the same.

9th.—Died rather unexpectedly about 11 A.M.

Assisted by Dr. J. H. Moir, formerly of Crimond, I performed a somewhat hurried necropsy five hours after death. Externally: The body was extremely emaciated; face pale and colourless, no puffing. The carbolic plaster was found *in situ* on the chest; no pus was on it. The wounds were almost closed; the larger one was easily opened by manipulating the skin. Internally: The pericardium was unduly distended with watery fluid. Fatty deposit had taken place at the base of the heart over the ventricles, as also on the right auricle. All the cavities contained blood, more particularly the right auricle. The wall of the right ventricle was perfectly friable; this degeneration in a more limited way affected the left side. The size of the heart was normal; the valves healthy; the musculi pectinati and chordæ tendineæ hypertrophied. The left pleura was attached anteriorly to the chest-wall with comparatively recent adhesions; the lateral adhesions were less firm. Hard nodes were plentifully scattered throughout the whole lung. The right lung was wholly fibroid, except at the apex; and the pleural adhesions were so firm that it was found impossible to remove the lung intact. A very large cavity, easily admitting a doubled fist, occupied the right apex, and in it we found recent thickened pus; very little fluid pus was found. There was no appearance of general pyothorax.

The necessity for relief, indicated by the urgent symptoms present, as above related, demanded an operation. My principal object in bringing the case under the notice of the profession is to suggest inquiry as to—(*a*) Are we justified in treating cavities in phthisical lungs, as is mostly done, by non-interference? or (*b*) Would it be wise to have more frequent resort to operative procedure? The question is, as regards an allied condition, admirably discussed by West.[1] In many, I may say in most cases, in the third stage of phthisis, occurring in children, the existence of cavities is easily diagnosed.[2] Were we to interfere as soon as a cavity could be discovered by means of operation, and the insertion of a drainage-tube, with due antiseptic precautions, is it unlikely that lives could be prolonged, or mayhap saved, which otherwise would be inevitably doomed? As to the means of operating, I conceive that with a large trocar and cannula, or even an ordinary straight bistoury, we are as efficiently armed, and more so than with any of the existing aspirators. The objections to aspirators in empyema have been well weighed ere now, and in country practice the more simple and familiar the instruments, the more frequently will they be used. No difficulty arises from antisepticism, as a small hand spray-producer, which can be easily managed by the most inexperienced, is quite sufficient for the purpose. It may be that in most instances little permanent benefit would result, but if we should have as satisfactory a proportion of cures as after tracheotomy in diphtheria (a modest enough hypothesis) why countenance the one and condemn the other procedure? The most probable secondary result is emphysema, though this is not a necessary sequence, and even were it so, it would be by no means a sufficient deterrent. In an almost identically similar case which was lately under my observation, the emphysema was purely local. As this case is highly illustrative of my subject, I may give it briefly:—

Emily C——, the child of a staff sergeant of the Haddington Artillery Militia, aged eight, came under my care on July 26th, 1878. The history was an ordinary one of pneumonic phthisis; both lungs were deeply involved; the child was a perfect skeleton, and seemed in the very last stage of existence. Several cavities existed, more especially on the right side, but my little patient was so very irritable that thorough examination was next to impossible, and, as the breathing was easy, the question of operative interference was not raised. She lingered on till August 26th, when a swelling on the right anterior chest, which appeared, according to her mother, only a week or so before, and of which I was not informed, burst, and discharged pus most freely. Large quantities of pus were discharged up to twenty-four hours from her death; the child was very

[1] Diseases of Infancy, pp. 366-7, fifth edition.
[2] Maunsell and Evanson: Diseases of Children, p. 458, third edition. Churchill: Diseases of Children, p. 382, second edition.

much easier after the abscess burst. Death occurred on Sept. 4th.

In further support of the advisability of such interference I will cite another case, which, though not of the same class, illustrates well the benefits of free openings.

Alex. G——, post-runner, Fraserburgh, was under my treatment about two years ago. He had remittent typhoid fever, pleurisy, and pleuro-pneumonia for upwards of four months. He was then affected with profuse clammy sweatings; diarrhœa; very high temperature, at times 105° F; pulse 140; hectic flush; and complete dulness of the left chest. He was seen by several of my medical friends during the course of his illness, and of seven of these all agreed he was doomed. On two occasions I aspirated him, but with only a slight improvement; he could not latterly allow of a drainage-tube; and, growing desperate, I made a free incision of three-quarters of an inch into the chest at the lower border of the sixth rib. Shortly after pus was discharged freely, and ran for some weeks. In about two months from the date of my last operation he resumed his arduous duties.

In the first case related the operation had, as was proved post mortem, no blame in hastening the end; the second case did not admit of interference; and the third was happily terminated by the means employed. I do not advocate operation except it *be certain* that the cavity is sufficiently *near the surface* to ensure our reaching it. If the opening could be made posteriorly, so much the better; but should an abscess point, or were a cavity near the surface anteriorly, I would not hesitate to second the efforts of nature. Taking three of our best works on modern medicine,[3] we find the operation theoretically approved of in empyema. In practice no difference, except in degree, is appreciable between true empyema, false empyema, or abscess, and the caseated lung tissue in its ultimate stage of degeneration; the prognosis may be better in one than in another, but actually the treatment does not admit of great variety. A case suitable for the treatment counselled is unquestionably exceptional at present, but it is possible, with due skill, care, and precaution, that artificial aids to the emptying of phthisical cavities may yet be employed more frequently with success; and with this hope I commit my experience to those who have the more fertile field of hospital practice at their command.

Dunbar, N.B.

REMARKABLE OSCILLATIONS OF TEMPERATURE WITHOUT APPARENT CAUSE.

BY WALTER ILIFFE, F.R.C.S. ED.

THE problems of medical science are undoubtedly great and various, and one of the most interesting, if not the most important, is to be found in studying the exact sources and modes of origin of animal heat. A definite knowledge regarding it would give us much valuable and needed information upon many points, and more particularly as to the exact signification of temperature alterations in specific and other fevers, in lesions of the nervous system, &c. This must be my apology for bringing the following interesting and exceptional case before the readers of THE LANCET.

Early last spring I was called to see a young lady, Miss L. I——, aged eighteen, and found her suffering from measles, which at that time was epidemic in the school where she was. The attack was one of moderate severity, the maximum evening temperature 102·5°, and the rash well out; in about a week she was convalescent, the evening temperature normal, and all symptoms having disappeared, she had my permission to get up the following morning, but at an early hour I was sent for, and found her much worse. There was a high pulse (120), quick respiration, flushed face, a nervous fidgety manner, dry skin, the tongue thickly covered with a white fur, bowels constipated, no inclination for food, the thermometer registering 105·4°. I suspected some inflammatory condition, and made a careful examination of each organ, but could detect nothing abnormal. The patient was tall and slightly built, and may perhaps be described as belonging to the nervo-phlegmatic type of temperament. She was somewhat excitable and perhaps hysterical, limiting the meaning of that word to a condition of weakness of will with emotional sensibility and ready excitability. I was informed she had commenced menstruating at fifteen years, but after the first month the discharge had entirely ceased and had never returned even in the slightest degree. Her complexion had become dusky, the face covered with an acne rash, and the skin under the eyes especially dark; she had never suffered from feverish illness of any moment, but she had been for some few months under my care with the object of bringing about the periods. I had tried various remedies, all of which had been unsuccessful.

During the following ten days the temperature (which was taken with the greatest care both in the axilla and in the mouth) underwent the most extraordinary and erratic changes, without my being able to find any specific cause. In the course of the twenty-four hours it would vary from the normal to 106°, and upon one occasion 107°; the period of the highest temperature being variable, sometimes at night, at other times in the morning or afternoon; and not at all during the course of the illness did the temperature rise or fall at any uniform hour. With the increase of heat the pulse and respiration rose more or less proportionally, the tongue became coated, the patient acquired a restless, fidgety manner, would answer questions in a short, abrupt tone, finger the bedclothes, and wander with her hands about the wall close to the bed. As the temperature fell these phenomena would subside, and it was truly marvellous to notice how, in some instances, the tongue, quite foul with the high temperature, would become perfectly clean in even so short a time as half an hour, as the latter approached its normal character. I subjoin a few temperature readings, which will serve as an illustration so far as the temperature, pulse, and respiration are concerned:

			Temp.	Pulse.	Resp.
March 24th	...	9.40 A.M.	... 101°	... 104	... 40
,, ,,	...	2.30 P.M.	... 104°	... 120	... 36
,, ,,	...	5.30 P.M.	... 106½°	... 130	... 45
,, ,,	...	9.45 P.M.	... 104°	... 120	... 38
,, 25th	...	9.45 A.M.	... 99°	... 88	... 28
,, ,,	...	3 P.M.	... 107°	... 130	... 60
,, ,,	...	6·45 P.M.	... 106°	... 120	... 50

The treatment comprised cold-packing (this was always adopted when the temperature rose to 106°), and the administration of such drugs as aconite, digitalis, and bromide of potassium.

At the end of ten days the elevation of temperature began to abate, and in a few more it became normal and remained so, the patient recovering her health gradually; and now, speaking generally of her condition, she is much better than she had been for many months previous to this illness. Amenorrhœa still persists, but the complexion is clearer, the lethargy and tiredness are much diminished, and the acne rash is gone.

I will not offer comments upon this case further than to point out the probable connexion with the hysterical temperament and the condition of amenorrhœa. I may mention that Dr. Hamilton, of Windermere, saw the case with me, and failed to find any cause to which we could refer the peculiar features characterising it.

Kendal.

[3] Flint's Practice of Medicine, p. 164, third edition; Aitken's Science and Practice of Medicine, p. 867, sixth edition; Watson's Lectures on the Principles and Practice of Physic, vol. ii., p. 151, fifth edition.

ON ELASTIC PRESSURE IN THE TREATMENT OF INFLAMMATION OF THE JOINTS,

AND ON A MODE OF ACCURATELY MEASURING THE FORCE EMPLOYED.

BY C. B. KEETLEY, F.R.C.S.,

ASSISTANT-SURGEON TO THE WEST LONDON HOSPITAL, AND LATE ASSISTANT-DEMONSTRATOR OF ANATOMY AT ST. BARTHOLOMEW'S HOSPITAL.

THE object of this paper is to call attention to the proved, but neglected, powers of elastic pressure in the treatment of chronic inflammation and of "dropsy" of the joints. There will also be described in it a new method of applying this elastic pressure, by which new method the amount of pressure can be measured, regulated, and recorded to a nicety, and to which the author proposes to apply the name of "hydraulo-elastic pressure," because its nature is partly

hydraulic and partly elastic. The plain india-rubber bags, which are the peculiar characteristic of the plan, may be named "hydraulic bags."

CASE 1.—On July 1st, 1878, W. T——, aged seventeen, was admitted into the West London Hospital suffering from chronic synovitis of the right knee-joint of about six months' duration, and following a blow. There was considerable effusion into the cavity of the joint, considerable thickening of the soft tissues round the joint, and also slight pain, tenderness, and local heat. He had hitherto been an out-patient, and treated ineffectually with blisters, Scott's dressing, and other agents, of which no record remains.

After his admission the blistering was repeated vigorously, but vainly, and a back-splint was used. Still no progress was made. The knee was then fired, but not severely. Before this firing was effected I conceived the idea of applying to the knee the strong elastic bandage (named after Esmarch, because that distinguished surgeon first used it for hæmostatic purposes). I did apply this bandage immediately after the firing, and in about three days every trace of intra-articular effusion had gone; only synovial thickening remained.

Now this first case was not conducted in practice quite so smoothly as it reads. I put the bandage on too firmly, and the patient, resenting the pain (he was but a poor, foolish boy), became thenceforth no ally of a treatment, which, after all, even by its very success, could only hasten his departure from a comfortable institution, for which he had conceived great affection. I had immovable faith in the ultimate result, and I stuck to my plan in spite of opposition. "My plan" I have written, but not quite fairly. In "Billroth's Surgery" is the following sentence: "The latter [i.e., compression] is the most effective remedy, but it must be strong and continued (forced compression, according to Volkmann); we may apply firm dressings with moist or elastic bandages." That is whence the idea came.

Well, this case, as is reported above, quickly got well; but the firing which had been administered just before the bandage was, of course, in a position to dispute the credit of the cure.

CASE 2.—Wm. H——, aged twenty-nine, a brewer's workman, was admitted into the West London Hospital under my care on August 1st, 1878. He remained there fifteen days. His case was a typical hydrops articuli of the knee of two years and ten months continuous duration. He had generally walked about and worked with it, but it was very weak, easily tired, and, when tired, painful. There were one or two tender spots about the hamstring tendons. The fluid filled out the bursa beneath the semi-membranosus. The patella rode freely, and must have been half an inch from the surface of the condyles. He had been treated in various ways, chiefly by rest and counter-irritation, but never by any form of pressure.

The patient was at once placed on his back in bed, and the elastic bandage firmly applied over cotton-wool, covering the whole knee and a distance of two or three inches both above and below the joint. The foot and leg were previously bandaged with common calico binders. The limb was placed on a back splint, and elevated on a pillow. He bore the treatment well for several hours. It then became too painful, and the house-surgeon, Mr. W. H. Brown, judiciously removed the bandage. This proceeding of keeping it on for several hours at a time was repeated for several days, sometimes twice a day. Upon one occasion, I am told, quite alarming symptoms of faintness supervened, which disappeared with the speedy removal of the bandage. In the intervals between the applications of the rubber he wore a common roller.

In three days the patella had quite ceased to ride; but, in consequence of a continuation of distinct fluctuation beside the ligamentum patellæ, the treatment was continued for a week or ten days. Eventually I had sense to discover what I ought perhaps to have known before—namely, that except in persons of very firm fibre, slight fluctuation is always to be got by placing one finger on each side of the ligamentum patellæ. Moreover that is not the spot where the last traces of redundant sero-synovia would collect, but rather the back of the joint, and the bursæ beneath the flexor tendons.

This was a very docile patient. From the moment he saw that he was going to get rid of his three-years'-long affliction, he took a deep, scientific interest in the use of what he called "Bismarck's bandage." He went out of the hospital with the bandage on, as a loan, till he bought a few yards of common elastic bandage. He continues to wear this common elastic bandage, and had, a month after his discharge, no return of the complaint.

But W. T——, the first patient who had gone out with his knee in a plaster case, came back in a week or two as bad as ever. I had not a bed for him at the time, and he plunged once more into that Cimmerian darkness whence and whither so many interesting out-patients come and go.

The treatment was undeniably painful throughout the whole of the first and at the commencement of the second case, but then I think it was probably unnecessarily severe. Therefore, after the second day of the second case, I placed beneath the elastic bandage and on each side the patella an india-rubber Barnes's dilator with a long tube attached. It had a moderate quantity of water in it. Now, when the bandage was wound over this bag, the bag was of course compressed exactly as much as the knee; therefore the perpendicular height to which the water rose in the tube of the bag exactly indicated the amount of bandage-pressure to the square inch. Moreover, by raising the mouth of the tube and pouring more water into it through a funnel, the pressure could be increased: and, conversely, by lowering the tube and letting the water partially run out, it could be diminished. When the pressure had been in this way satisfactorily adjusted, a tape was tied round the mouth of the tube, and the tube placed in the bed beside the knee. Therefore the correct name for the treatment used in the case of W. H—— is "hydraulo-elastic pressure."

The elastic bags employed for this purpose should extend from the very lowest to the very highest coil of the bandage. Messrs. Arnolds offer to supply them at a charge of 10s. 6d. the set of half-a-dozen. When used for this purpose, they may conveniently be named "hydraulo-elastic bags" or "strophometers" (*strepho* and *metreo*).

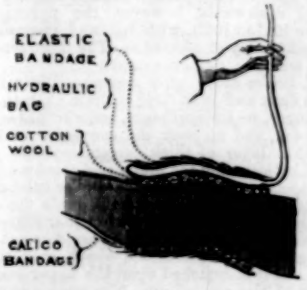
Whoever has been interested by the above remarks, and, indeed, everybody else who takes interest in the progress of surgery, should read a pamphlet by Lieut.-Colonel Henry A. Martin, M.D., entitled "Surgical Uses, other than Hæmostatic, of the Strong Elastic Bandage," published in America this year. I accidentally met with the work three weeks ago. Colonel Martin cures ulcers, articular inflammations, erysipelas, rheumatism, neuralgia, and many other affections by the judicious use of the elastic bandage. I recommend every English surgeon to read the book for himself. It certainly is a work of high importance. Dr. Martin has been employing the strong elastic bandage for fifteen years. The antiphlogistic virtues of pressure are much neglected, and more especially, I am sorry to say, in this country. They are not even noticed in some of our most popular text-books of surgery.

It is worthy of notice that "blood-pressure" is hydraulo-elastic in its nature. This fact, when considered in connexion with the treatment applied to W. H——'s knee is not to be regarded as a mere curious coincidence.

I append an account of the rules followed in W. H——'s case:—

1. Envelope the knee-joint in cotton-wool. (This is a step probably not necessary, and perhaps not desirable. Experience will decide.)

2. Take an hydraulic bag long enough to extend from two inches below the tubercle of the tibia to three inches above



the upper border of the patella. Place it longitudinally along the joint, towards the front, but on one side of the patella, having previously not quite half filled it with water.

3. Apply an ordinary broad Esmarch's bandage of good quality over all, while an assistant holds the orifice of the

strophometer tube at a definite height. The height I used in W. H——'s case was twenty-eight inches (that is, perpendicularly above the level of the patella). But obstinate cases might require a greater pressure. It may just be noticed here that the blood-pressure in the carotid artery is about 100 inches, but that in the smallest arteries and in the veins is much less. Well, when the bandage has been applied, the water in the strophometer tube should just overflow its orifice. If the water does not reach high enough, a little more water may be poured into the tube through a funnel. But if the water will rise much higher, a little (only a little) should be allowed to escape. If the pressure cannot be accurately adjusted without adding or subtracting more than a small quantity of the water in the bags, the bandage had better be reapplied altogether. The above process may seem a troublesome one. I do not think it would be found so in practice. I believe some means of gauging the force mathematically is essential if the use of compression is to be ever cultivated into a perfectly safe and painless process. The bags should be made of the softest rubber, and without rigid, unpleasant seams.

4. With regard to the length of time of a single application, I may state that the patient, W. H——, could bear, without much discomfort, a pressure of twenty-eight inches of water for eight hours continuously.

5. A common, cheap elastic bandage should be worn months after the cure of chronic cases, to prevent relapse. Martin's advice may be followed, and aspiration be combined with elastic pressure when the effusion is great and the case obstinate.

NOTE ON THE OCCURRENCE OF CEREBRO-SPINAL MENINGITIS.

BY DR. H. V. CARTER,
SURGEON-MAJOR H.M. INDIAN ARMY.

THE local epidemic of fever consequent upon immigration of the famine-stricken, still lingering (mostly through contagion), all serious cases admitted into the J. J. Hospital continue to be watched; and amongst those seen last month was the following:—

R. Y——, aged thirty-five, resident, a labourer, living in an infected locality; somewhat emaciated, feverish (temperature 102°, pulse 120), and only semi-conscious. There was tenderness on pressure over the back and limbs; chest-sounds normal; abdomen supple; hepatic and splenic tenderness, with slight splenic enlargement; no jaundice; tongue coated, white, moist; state of the bowels unknown; bladder not distended. No spots could be seen in his very dark skin, nor were spasms observed; the symptoms, in short, being those of advanced "remittent" fever, with cerebral oppression. History and duration unknown. No spirillum in the blood. On the third day there occurred a distinct fall of 3°, without sweats, dry cough, and incipient consolidation of the base of the left lung going before. Temperature 99·8°; pulse 128, and the patient became slightly conscious. Immediately afterwards, however, the pyrexia returned (temperature 101° to 102°), with renewed insensibility, and death on the fifth day of admission. The treatment consisted of ice-bags, enemata, and stimulants.

Necropsy, twelve hours after decease.—Rigor mortis present; blood dark and semi-fluid.—Brain: Great congestion of the meninges, no hæmorrhages, some turbid serum in the arachnoidal sac, and all over the convexity of both hemispheres a thin layer of thick, greenish-yellow pus, which was located between the pia mater and arachnoid, following the bloodvessels, and accumulating in the sulci and fissures of the cerebrum. At the base of the brain the matter was especially abundant in the inter-peduncular spaces, there enveloping the cranial nerves; it had passed round the middle cerebellar peduncles and collected above, over the valve of Vieussens, and it encroached upon the upper surface of the central lobe of the cerebellum. The ventricles of the brain contained turbid serum; the brain-substance was somewhat congested, softened, and wet. Spinal cord hardly changed in the cervical region, but further down the subarachnoid space was occupied with puriform lymph similar to that found upon the brain, and this could be traced nearly as far as the lumbar enlargement. The effusion was not quite uniformly disposed, and it was limited almost wholly to the posterior surface of the cord; it gave me the impression of being continuous with the cerebral collection, although the streaks seen alongside the vessels of the pia mater in the cervical region of the cord were only narrow and sparse. The spinal membranes were congested, but neither arachnoid nor pia mater was much thickened; the substance of the cord somewhat soft and pale. Weight of brain 2 lb. 15 oz.; of cord 3 oz.—Chest: The left lung was more or less consolidated throughout, but mostly below; right lung healthy; clots in the heart, valves healthy.—Abdomen: Liver rather small, of normal tint, but showing disseminated patches of fatty degeneration; spleen shrunken, healthy-looking; kidneys of normal aspect or only slightly congested; mucous membrane of large and small intestines healthy-looking. (Notes of the assistant-surgeon in charge, with some additions.)

Remarks.—If the notes taken during life (when I frequently saw the patient) do not record much that is pathognomonic of cerebro-spinal *typhus* (?), yet this circumstance renders the case all the more striking, and its real character seems to be placed beyond doubt by the results of the autopsy. I am not aware that similar instances have been published in India (Morehead, in his first edition, vol. i., p. 144, has a case of meningitis, in which the cord unfortunately was not examined), but even if it be so, the occurrence of this species of continued fever in connexion with ordinary and recurrent typhus (not to mention enteric fever, which is by no means rare) is well worthy of notice; and the discrimination now made is to some extent confirmed by milder cases of cerebro-spinal fever lately seen here, which have survived under care of the able physicians of the J. J. Hospital.

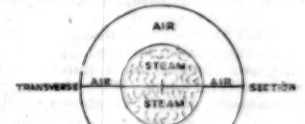
Grant College, Bombay.

DESCRIPTION AND SKETCH OF CONDENSING VENTILATOR.

BY SURGEON HENRY M. LEVINGE, M.B., R.N.

(*Communicated by the* DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE NAVY.)

I BEG to forward a drawing of a piece of apparatus which appears adapted for ventilating ships in a most economical and perfect manner—I say economical, because, in steamers and those ships making their own drinking-water, no expense need be incurred; for, as in ordinary modes of distilling, "the latent heat of evaporation" is given to water, so I propose giving it to the air, at least so much as may be required for ventilating purposes.



Anyone may have observed jets of heated water issuing from steamers under weigh, while people on board are shivering with the cold and blocking up ports, hatches, &c. Why should all this heat be allowed to escape when work still remains to be done? If, during a breeze, the force of the wind were employed to drive air against a heated surface, such as the conical top of the condensor, it might be heated to any degree required *before* arriving at the place to be ventilated, thus removing the objections to a draught; for only *cold draughts* are objectionable. It is a known fact that small overcrowded places cannot have their air changed sufficiently often (to ensure even a moderate degree of purity) without causing draughts.[1] Stoves, steampipes, &c., in cabins and saloons heat the air only *after* arrival, thereby presupposing delay, vitiation, &c., going on while the air is being heated, as well as delaying its escape; for heated air,

[1] Vide Parkes's Manual of Hygiene, p. 139-40.

owing to its lessened specific gravity, has a strong tendency to rise.

During calms the cowl might be removed, or faced opposite the prevailing air, thus reversing the action and turning it into a powerful extracting shaft. Experimenting with a model (which is at present in the Parkes Museum of Hygiene at University College) extracted air at orifice marked 100° F., the external air being 60°. The difference, height, and area of the heated column being known, the air extracted in a given time can be easily circulated by Montgolfier's formula. Where ice is available a very considerable reduction in temperature could be effected.

It is to be observed the outer casing does not become heated, being surrounded by air at all times in rapid motion. It appears the diameter of the condensor should be half that of the air shaft, and its height from four to five feet. Supposing the diameter of condensor to be one foot, the diameter of air-shaft two feet, the area of air-shaft (i.e., clear space for passage of air) would be 339 square inches; the same area a circle of twenty-inch diameter would have. A condensor, therefore, half the diameter of air-shaft does not interfere so much with the air-space as might appear.

CONDENSING VENTILATOR.

Intended for use on board ship as a means of heating the air before delivery or extracting during calms by the heat evolved in the condensation of steam, which steam may be used in a condensed form for drinking or other purposes.

To heat during cold weather.—Allow steam to pass in through the cock. Face the cowl to the breeze. Water will be delivered by lower tube. As passing through the shaft, air may be raised 25° F.; any lower temperature required may be obtained by lessening the supply of steam.

Extraction during calms.—Either remove the cowl or face it opposite the prevailing wind. The heat of the condensor being communicated to the surrounding air, a strong upcurrent will be induced. The outer casing does not become heated.

Royal Naval Hospital, Bermuda.

a, Removable cowl. *b*, Condensor. *c*, Air shaft. *d*, Steam pipe. *e*, For drawing off water.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

TWO CASES OF STONE IN THE BLADDER: LITHOTRITY IN ONE; REPEATED LITHOTOMY IN THE OTHER.

(Under the care of Mr. BERKELEY HILL.)

FOR the notes of this case we are indebted to Mr. G. W. Wray, ward clerk.

CASE 1.—J. S——, sixty-three years of age, farmer, from Northamptonshire; a stout, florid man, with commencing atheromatous degeneration. Three years ago he had increased frequency of micturition after exercise. A year later he passed a small calculus, and in the succeeding twelve months he passed ten more. During this time he had no pain in the bladder or urethra. Seven months since he had pain in the urethra after micturition, with blood in the urine after exercise. He was sounded by two surgeons, but neither crushed the stone.

On admission there was micturition five times by day, twice by night. Urine cloudy, neutral, sp. gr. 1018, with a trace of albumen; no blood or casts. On the second day after admission the stone, three-quarters of an inch in diameter, was crushed, the débris being uric acid. The operation was almost painless. During the next three days fragments and fine débris passed without difficulty; there was some pain during micturition, but not afterwards. On the sixth day the second crushing was done, and on the tenth day the third crushing. In seven sittings the whole stone was reduced to fragments small enough to pass away easily, with the exception of one fragment weighing eight grains, which, three days after the penultimate crushing, travelled along the urethra until it became lodged in the navicular fossa, whence it was extracted by the house-surgeon, without much difficulty or pain to the patient. The constitutional disturbance which followed the passage of this fragment was identical with that observed after internal urethrotomy, where urine is voided during the first fifteen hours after the operation per urethram. The patient's temperature had been previously normal during his stay in hospital. Fifteen minutes after the extraction of the fragment, and immediately after passing urine, a rigor of twenty-five minutes' duration occurred, at the close of which shiver the temperature was 99·4° Fahr. In fifteen minutes more the temperature rose to 103·2°, and in one hour after the extraction of the fragment it reached its maximum of 104·4°, which height it maintained for one hour and a half, then fell slowly to normal in sixteen hours, where it remained thenceforth. The urine had been previously free from blood-discs and albumen. That passed two hours after the extraction had a few blood-discs, leucocytes, and epithelium cells, but no granular casts. A second sample, passed nine hours after the extraction, had no red discs, but several granular casts and leucocytes. The urine contained granular casts in small quantity for three or four days afterwards, and traces of albumen. But the patient, after the first sixteen hours, felt perfectly well and free from pain, and left the hospital in good health on the twenty-ninth day of his stay.

This kidney affection occurs frequently after internal urethrotomy, and would probably be always detected if search were made when the urine is voided along the incised urethra, and not through a catheter, during the first sixteen or eighteen hours after the incision. In this instance the urine irritated the scratches produced in the urethra by the fragment as it travelled along that tube. To healthy kidneys the shock and subsequent congestion is probably of small importance, but they may seriously affect kidneys already much degenerated by repeated attacks of interstitial inflammation, a common condition in cases of long-standing stricture.

CASE 2.—J. F——, sixty-six, a farmer from Lincolnshire, a well-nourished, tolerably vigorous old man. The history of the case is as follows:—Difficulty of passing urine began eight years ago. Since then patient has drawn his urine by catheter twice or thrice daily, with increasing difficulty in voiding urine, and, during the last six months, great pain in testicles. Now uses catheter every hour, and urine comes wholly in this way. Prostate enlarged until posterior border is only just reached by the finger-tip. The urine turbid, strongly alkaline, one-third albumen, copious deposits of phosphates and pus. Rest in bed, with regular evacuation and washing of the bladder, removed pain, and rendered the urine clear and neutral; the albumen diminished to traces, and the deposit to mucus in small amount. By lateral lithotomy a uric-acid calculus of sixty-six grains in weight was removed. Thenceforth the patient made a steady recovery, but his inability to pass water returned as the wound closed, and he left the hospital six weeks after the operation in good health, but unable to void urine without the catheter. In two and a half months he returned to hospital, suffering from severe cystitis. Rest in bed, couch-grass decoction, and washing the bladder with a two-grain solution of quinine, removed the pain and all offensive odour from the urine, though much pus was still mingled with it. By lateral lithotomy a phosphatic stone was removed. It crumbled somewhat in extraction, but that which was preserved weighed 205 grains.

Two days after operation the bladder was found again distended by sixteen ounces of urine, notwithstanding the free incision made through the prostate at the operation. Thenceforth the recovery was steady, but accompanied with speedy loss of power to eject urine without the catheter. There was consequent chronic cystitis, which favoured the production of mortar-like concretions of phosphates, which, by means of the lithotrite and Clover's washing bottle, were

removed from time to time, until the urine became gradually free of pus, neutral or acid, when withdrawn, and of specific gravity 1015 to 1018. The patient regained his strength, and left the hospital two months after the operation, drawing off his urine four times in twenty-four hours, and washing the bladder daily with tepid water. He wrote once, a month after his departure, to say that he continued in fair health.

The interest in the case consisted in the production of a moderately large calculus from chronic cystitis in a short time after the first operation—much less than two months and a half, the interval between his first discharge and return, for he was trained before he left the first time to wash out his bladder daily. And this he did for some weeks, but presently omitted this somewhat troublesome detail, with the result of a speedy return of his cystitis, and formation of a new stone. Another feature was the fact that, though freely incised through the neck, the bladder had so little expulsive force that slight swelling of the wound sufficed to prevent drainage of the bladder. Again, the obstinacy of the cystitis, and probably pyelitis, which continued after the second lithotomy was, by perseverance in washing with Clover's bottle, completely cured, and the patient restored to fair health.

CHARING-CROSS HOSPITAL.

NECROSIS OF FEMUR; INTERMITTENT ALBUMINURIA; AMPUTATION; RECOVERY.

(Under the care of Mr. BELLAMY.)

FOR the following notes we are indebted to Mr. Colquhoun, surgical registrar.

It would be of considerable pathological interest if a complete explanation could be adduced in the first place of the occurrence of albuminuria, and in the second of its immediate disappearance after so severe an operation as amputation. In this case, although the condition of the urine was from the earliest tested, albumen was not detected until late, and then in great quantity; intermissions occurred, and there seemed no power to reproduce bone or to separate necrosed tissues; the patient was becoming hectic, and on more than one occasion was nearly comatose. As a chance of saving life, the thigh was removed, and the patient recovered from the date of operation.

The history of the case is briefly this. A boy, W. W——, thirteen years of age, was admitted into the hospital Dec. 7th, 1877. He had always been a delicate lad. About twelve months before admission he had suffered a good deal from aching pain in the right hip, which came on when he walked about much; this went on until he was unable to go about at all. A swelling appeared at the back of the middle of the thigh when he came first into hospital, when the swelling was opened, and he was afterwards sent to the Convalescent Home at Eastbourne. When readmitted, the right thigh was a good deal swollen, and there were sinuses near the lower end of the femur leading down to dead bone about the ham, and a considerable amount of discharge from the sinus. In all other respects the patient was well enough; no lung, kidney, or liver complication.

On Dec. 8th, iron and cod-liver oil were ordered to be given twice a day.

On Feb. 14th Mr. Bellamy removed a sequestrum about three inches in length. The patient passed a good night, and next day the wound looked well. On the 23rd bark and ammonia were added, and on the 27th zinc lotion was applied. There was little noticeable change. All the dead bone was evidently not removed, and the discharge continued very profuse. Syrup of iodide of iron, with cod-liver oil, was given.

On March 23rd the discharge was still profuse, and the femur seemed to be thickening at the lower end. A month later there was no change. There was, however, a great deal of discharge, and evidently a casing of new bone was forming round the necrosis at the lower third of the femur, and sulphate of copper was now used as a dressing.

On May 8th the patient's general condition was bad. He had a "waxy" look. Albumen was detected for the first time in the urine (about one-fifth). On the 6th he was ordered sulphate of quinine and sulphuric acid, turpentine, and infusion of quassia.

On May 30th there was more swelling in front of the thigh, and two incisions were made, evacuating deep-seated pus. The femur was much enlarged in the lower two-thirds, and the patient's condition was very low.

On June 11th ammonia was ordered in effervescence; the albuminuria was intermittent, sometimes a trace, sometimes excessive; discharge profuse.

On July 11th, as the boy was evidently getting rapidly worse, Mr. Bellamy determined on amputation, which he performed antiseptically, just below the trochanters, by a long anterior and short posterior flap (owing to the position of the sinuses). The patient passed a good night. On the 15th the stump looked well, and the discharge was free; there seemed to be a painful spot which irritated the boy very much when the drainage-tube was introduced. On the whole, the general condition was much improved since the operation, and there was no trace of albumen in the urine. On the 25th the antiseptics were left off, suppuration being free and the wound requiring dressing daily; it was dressed with red lotion, and looked well. By Aug. 1st the stump had almost healed, and the patient was out of bed. On the 10th the stump was entirely healed, the patient's general health being much improved. Five days later he was discharged cured. (Mr. W. J. Brookes, of Westminster-road, under whose care the patient now is, reports that he is quite well, and has had no recurrence of albuminuria at all.)

GLASGOW ROYAL INFIRMARY.

CANCER OF LUNG AND PLEURO-PNEUMONIA.

(Under the care of Dr. CHARTERIS.)

FOR the notes of this case we are indebted to Mr. Owen Williams, house-physician.

Patrick K——, aged forty, labourer, was admitted on Sept. 20th, 1878, complaining of pain in his left side, dyspnœa, cough, and expectoration of a rusty, gluey, and frothy character.

The patient stated that about a month previous to his admission he was attacked with pain in his left side and cough, the pain being aggravated on coughing and on taking a deep breath, and in a few days he found that his sputa were streaked with blood. He did not feel himself feverish, but was gradually losing strength and flesh, and could not lie on his right side.

On admission his complexion was sallow, the expression calm, breathing hurried (twenty-eight per minute), pulse weak, soft, and slow. The man was very low-spirited throughout, and stated that he would not recover. The temperature was 97°, and remained so to the end. The chest was barrel-shaped, and the intercostal spaces bulged; the relative measurement of both sides of the chest in the nipple line was found to be nineteen inches on the left to eighteen inches and a half on the right. There was dulness over the base of the left lung in front and behind. Crepitation and well-marked friction were heard in front over the seat of dulness, the respiratory sounds in the infra-clavicular region being apparently normal; behind, the respiratory sounds were diminished over the seat of dulness, and there was audible slight friction and increased vocal resonance. The breathing was puerile on the right side.

About a week after admission the respiratory sounds and crepitation were absent at the seat of dulness on the left side, and the former were diminished in the infra-clavicular region; in a few days they were absent there also, but well-marked friction remained audible to the end. During this time the patient suffered much more from dyspnœa, and showed more decided aversion to food. On the last few days he could not take any solid food, as it caused great pain in swallowing, and very frequently vomiting ensued immediately after taking it. He was obliged to sit up in bed before he could swallow, and this sitting posture always brought on a severe attack of coughing. The tongue was clean and moist; his bowels costive. The area of liver dulness was slightly enlarged, but the patient never complained of pain over the hepatic region.

Patient had always been healthy previous to this attack, and of temperate habits, and at no time had he the red-currant-jelly expectoration supposed to be characteristic of cancer.

The symptoms during life were thus very obscure, and a

definite diagnosis from the absence of positive signs could scarcely be given.

Necropsy.—Pleura: Dry, recent lymph was found in the lower part of left pleura, and some old adhesions in the upper part, also a few old adhesions were observed in the right pleura.—The Growth: At the root of the left lung, just below the bronchus, a large nodular rounded mass, of a soft, solid feel, was seen. On dissecting the parts, this mass was found to press on, but not to intrude into, the gullet. It, however, had made its way into the left bronchus so as nearly to occlude it, and had invaded the lower part of the lung. It presented a mottled red and white aspect, and on section the great mass of it was white, but there was a soft red pulp at one spot. There was no cancer in any other part of the body. The larynx, trachea, and right bronchial tubes were normal. The right lung was crepitant everywhere; the left lung was in a state of grey hepatisation, and the air-tubes were full of muco-pus. The stomach was nearly empty, and was not diseased. The liver was distinctly cirrhotic, the surface large and granular, and the section was marked out with fibrous bands into small nodules.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Gangrene of the Penis.—Aneurism of the Aorta.—Dermoid Cyst in the Brain.—Acute Yellow Atrophy of Liver.—Embolism of Pulmonary Artery.—Unilateral Cancer.

THE ordinary meeting of this Society was held on the 19th instant; Dr. Murchison, President, in the chair. Drs. Charcot, Chauveau, Robin, Cohnheim, Thiersch, Pirogoff, Gross, Schwann, and Rindfleisch were elected honorary members of the Society. Dr. Irvine and Mr. Godlee were nominated by the President to act as auditors of the Society's accounts.

Mr. GAY exhibited the Gangrenous Corpora Cavernosa and Corpus Spongiosum which he had removed from a man aged thirty-one, who was admitted into the Great Northern Hospital in March last. He was a healthy man, free from syphilitic taint, exposed in his work to long walks and damp. His illness began with an attack of tonsillitis, which left him weak, and before he had recovered he was attacked with rheumatism in his knees and ankles, which passed off, and he then suffered from pain in his calves and feet. This also subsided in a few days, and he then had severe supraorbital pain with œdema of the eyelids; on the subsidence of this a rash appeared on the bend of both elbows, which faded in a few days, when he was again attacked with pain in the calves of the legs and swelling and tenderness along the external saphena vein. Then followed severe pain deep in the perineum, and in two or three days the penis became engorged with blood, tense, and rigid, and ultimately sloughed and separated. The superficial parts of the penis were œdematous, but not gangrenous. The man recovered. Mr. Gay considered that this was a case of metastatic rheumatic phlebitis, which ultimately led to thrombosis of the internal iliac veins, involving especially the prostatic and pudic branches, and spreading slightly into the external iliac vein, as was evidenced by the œdema of the sheath of the penis. He pointed out that while all the cutaneous veins of the body communicate very freely, and in most regions the superficial and deep veins have many anastomosing channels, in some regions, as the penis, the venous channels of the skin and of the deeper parts were quite separate, and that when the deep veins were plugged the circulation could not be carried on through the superficial vessels, but gangrene must occur. Whether a gangrene should be dry or moist he considered depended upon the condition of the patient, and not upon the cause.—The PRESIDENT was surprised to hear that the patient had recovered. He had seen many cases of arterial and venous thrombosis after fevers, particularly typhoid, and he had found that the skin sloughed as well as the deeper parts; he had never met with a case in which the whole penis had sloughed.—Mr. GAY thought that in the cases referred to by the President the gangrene was due to weak action of the heart, occlusion of the arteries, and unhealthy blood, rather than to venous obstruction. In his case the heart was healthy.—Sir J. FAYRER stated that in the hospitals in India cases of gangrene in malarial patients were exceedingly common, and were caused by plugging of the arteries by firm fibrinous deposits.

Dr. LEDIARD showed a specimen of Aortic Aneurism which ruptured externally. A man was admitted into the Cleveland-street Sick Asylum with an aneurism of the thoracic aorta, which caused an oval swelling on the right side of the sternum. The heart's action was thumping; radial pulses slow, regular, and exactly alike in time and size on the two sides. The tumour rapidly increased in size, and caused spasm of laryngeal muscles, dilatation of one pupil, flushings of the face, followed by deep pallor. A black slough formed over the most prominent part of the tumour, which oozed for a few days, and then suddenly burst, and the man died in a quarter of an hour. At the post-mortem examination the aneurism was found to spring from the aorta just above one of the cusps of the valve, and to consist of two parts, one behind the sternum, the other outside the cavity of the chest. There was no clot in the sac, which was lined by fibrin. It was rare for aortic aneurism to burst externally; out of sixteen cases of this disease recorded by Hayden only one thus terminated. Stokes has recorded four instances.—The PRESIDENT remarked that Dr. Sibson had collected several cases.—Dr. RALFE had seen many cases of aortic aneurism at the Seamen's Hospital, but had only noticed external rupture in one instance. His experience was that, after bulging forwards to a certain extent, the tumours extended backwards.

Dr. LEDIARD also showed a specimen from a case of Aneurism of the Abdominal Aorta, where, he thought, the death was due to uræmia. A man, aged fifty-two, had fallen from a plank four years before admission to the Sick Asylum, and bruised his side. No history of syphilis. On admission he was suffering from œdema of the feet and pain in the loins. His arteries were tortuous; there was a double aortic murmur, and a pulsating swelling in the abdomen. The spines of the lower dorsal vertebræ were bulged backwards, and a systolic murmur became audible in the loins. The patient lost sleep and appetite, there was general anasarca, and a drowsiness came on, which deepened into death. The urine, which was examined up to within a few days of death, did not contain albumen. At the post-mortem examination a large aneurism was found immediately below the diaphragm; the right renal and cœliac arteries were obliterated. The left kidney was large, and weighed 10 oz.; the right small (3 oz.), healthy in structure. The association of disease of the heart and abdominal aneurism is rare, as is also death from uræmia.—The PRESIDENT asked what evidence there was that death really resulted from uræmia.—Dr. LEDIARD stated that there was general dropsy and heaviness, and that at the last the urine was diminished in quantity, and passed involuntarily.

Dr. IRVINE showed a Dermoid Cyst in the Cerebellum of a child aged seven, lately under Dr. Pollock's care in Charing-cross Hospital. The only symptoms observed during life were weakness in the lower limbs, which increased to complete paralysis, oft-repeated convulsions, and double internal squint. The dura mater was found adherent to the skull and cerebellum, and on incising it a quantity of pus-like sebaceous matter escaped, and with it a quantity of hair like that on the head. This was found to come from a cyst occupying both halves of the cerebellum, and extending a short distance down the cord, which was softened on its posterior aspect; it was lined throughout with cheesy sebaceous matter. Dr. Irvine believed the case to be unique. It might be explained by the epiblastic layer of the embryo which folded in to form the nervous system, carrying with it some tissue capable of developing cutaneous structures.

Dr. RALFE showed the Liver, Kidneys, and Spleen which had been recently removed from a case of acute Yellow Atrophy of the Liver. Dr. de Fonmartin read the clinical notes of the case. A boy was admitted into the Seamen's Hospital under Mr. Leach's care from a training-ship on the Thames, suffering from icterus, epigastric and hepatic pain, delirium, and convulsions, which passed into complete coma. The vertical dulness of the liver was only three inches in

length. There was retention of urine, forty-one ounces being secreted in thirty-six hours. At the post-mortem examination the liver was found to weigh thirty ounces, and to be of a yellow colour; the stomach and upper part of small intestine were full of coffee-ground fluid; no ulceration. Dr. Ralfe found that there was not much diminution of the amount of urea in the urine, which contained a considerable quantity of uric acid. Bile acids were also found in it. On evaporation the urine left a sticky deposit containing tyrosin. He had seen two or three of these cases in boys in training-ships in the Thames, and Mr. Smith had seen several cases also. Was this to be attributed to some malarial influence?—The PRESIDENT suggested that the liver should be examined microscopically.

Mr. LYELL exhibited a recent specimen of Thrombosis of the Pulmonary Artery, taken from a woman in the Middlesex Hospital, on whom Mr. Lawson had operated for cancer of the breast. Some varicose veins on the inner side of the left knee were found to be plugged about a week after the operation, and a firm tender cord was felt running up the thigh from them. This local trouble subsided in about a week, and all appeared to be going on well, when she suddenly started up in bed, shrieked out, complained of pain all over, and died in a quarter of an hour. At the autopsy, the right cavities of the heart were found to contain a little dark fluid blood, no clot; in the pulmonary artery was a clot six inches long, almost as large as the little finger, which was folded on itself, one end of it being near the bifurcation of the pulmonary trunk, and the other reached on into the right division of the vessel, the fold of the clot projecting into the ventricle between the cusps of the pulmonary valve; no clot in left pulmonary artery or the smaller branches of right artery; both lungs equally engorged; vena cava and right iliac veins empty and healthy; fatty tissue round left common and external iliac veins indurated; these veins were empty, with thin fibrinous films adherent to their inner walls; left saphenous and femoral veins blocked with softening decolorised clots. Regarding the condition of the iliac veins and the limitation of the clot in the pulmonary artery, which was apparently all of the same date, Mr. Lyell thought this was an instance of a large embolus being carried bodily into the pulmonary artery.—The PRESIDENT remarked on the great suddenness which marked the course of these cases; in a fatal case of gouty phlebitis he had met with very similar appearances.—Dr. GOODHART had seen some clots in the pulmonary artery which he was convinced were entirely the result of thrombosis.

Dr. BRAIDWOOD showed microscopical specimens, and read the notes of a case of Unilateral Cancer, occurring primarily in bone. A lady, aged sixty, whose aunt had died of cancer, was attacked with left sciatica and pain up the spine, and other nervous symptoms. A small, firm swelling was noticed behind the left ear, another over the middle of the left temple, another on the middle of the left thigh; these tumours resembled nodes. At the autopsy the left ilium was found swollen, soft, with a central cavity full of bloody fluid, having the microscopical characters of medullary cancer juice; the sacro-iliac synchondrosis was destroyed, and the body of the fifth lumbar vertebra softened. Left mesenteric glands enlarged. Sections of the several tumours, which were all alike, showed dilatation of the Haversian canals, with thickening of their lining epithelium, and granular matter and proliferating cells surrounding them. There were no other signs of cancer. The tendency to cancer might be considered inherent, but it attacked the epithelial elements of one tissue only.—Mr. BUTLIN was persuaded, from an examination of the specimens, that this was a case of cylindrical epithelioma of bone; he should be glad to know if the rectum was carefully examined; this disease often commenced there.—Dr. STURGE had watched a case of very severe sciatica, in which, after death, a medullary cancerous tumour was found in the ilium, with secondary deposits in the lungs and petrous bone; the rectum was quite healthy in that case.—Dr. PYE-SMITH agreed that the specimens were those of glandular carcinoma, and if it was really a primary cancer in bone it was a unique case. He asked what epithelium Dr. Braidwood referred to as lining the Haversian canals; he was only aware of the existence of the endothelium round the bloodvessels.—Dr. WILBERFORCE SMITH referred to a case of medullary cancer beginning in the first rib, which he had recorded in the 19th volume of the Society's Transactions. It was examined by Mr. Arnott; it also contained pieces of new bone.—Dr. BRAIDWOOD felt along the rectum, but did not remove it. There were no symptoms of rectal disease during life, and if present it must have been very limited in extent.

MEDICAL SOCIETY OF LONDON.

Treatment of Spinal Curvature by the Rigid Jacket.

AT the ordinary meeting of this Society on the 18th inst., Mr. Erasmus Wilson, President, in the chair, Dr. Douglas Powell exhibited his schema of the chest, to demonstrate the influence of the elasticity of the chest-wall and of the lungs upon healthy and morbid conditions of the thorax. The ingenious apparatus was shown by Dr. Powell at the late meeting of the British Medical Association.

In the course of some remarks that followed, Dr. R. J. LEE held that keeping up a permanent opening in the thoracic wall in empyema was contrary to sound physiological doctrine, and he had an apparatus constructed to obviate this.

Mr. EDMUND OWEN then read a paper on the "Appreciation of Rigid Jackets in the Treatment of Angular Curvature of the Spine," in which he remarked that we owed to Dr. Sayre a great debt of gratitude for having introduced into our practice an apparatus which was both light and inexpensive, and which when once applied may be left on for months, securing absolute and uninterrupted rest for the carious vertebræ, Pott's disease being thus treated on the same principle as an inflamed hip-joint or carious tarsus. Sayre's remark, that by the plaster-of-Paris treatment the practitioner could keep the patient under his own supervision, was important, since it prevented the disturbance of parts by sending the patient by road or rail to some specialist in the nearest town, nor was it necessary to call in the aid of that anomalous class of practitioners who style themselves "surgical mechanicians." Although simplicity and rest were the chief merits of Sayre's method, Mr. Owen regretted to find Dr. Sayre speaking of "stretching" a spine weakened by caries, and thus diminishing the angular projection,—an improbable theory, and an unnecessary one, which indeed his own (Mr. Owen's) experience at the Children's Hospital and elsewhere did not confirm. Thus he was led to reject entirely Sayre's theory, although he implicitly trusted the working of his method, with certain modifications. Mr. Owen believed that if the spine were weakened from disease, it was quite possible for the surgeon to fracture it in attempting any straightening; that bone-setters had accomplished the feat. The idea of hanging up by the arms and hands the terrified little subjects of cervical caries was, to say the least, unpleasant; and for some time he had entirely given up suspending patients, leaving the method as valuable as before. The arms being held up out of the way, he applied the plaster bandage, and he held that no rigid jacket could do more than play the part of a perfect splint to the child's trunk. Any attempt at straightening the diseased angle is as undesirable as its attainment is doubtful. In conclusion, Mr. Owen trusted that he should not be considered as having criticised Dr. Sayre's views unfairly; experience had led him to regard Dr. Sayre's treatment as of the greatest therapeutic value, and he was of opinion that the thorough scepticism with which he received Sayre's theory need not preclude a sincere belief in the merit of his work.—Dr. WALKER (of Peterborough) said that he had practised this treatment for the last sixteen years, his first hint of it being derived from a gutta-percha jacket, in which a child suffering from spinal curvature, whom he had sent to London, had been encased by the metropolitan surgeon. Two years later he read a paper on the subject before a branch of the British Medical Association, but published nothing else except in a letter written to THE LANCET when he heard of Dr. Sayre's method. Suspension is not a necessary part of the treatment, and so far he agrees with Mr. Owen; but the spine should be placed in a favourable position, it being remembered that the spine is a jointed column, so that the part below the seat of disease is thrust backward as the upper part falls forward. By placing patients in the recumbent position pain is relieved, and the spine sufficiently extended. The first patient on whom he tried suspension

fainted, although she had previously been put up in the recumbent position. He uses a many-tailed bandage made of Victoria gauze, and saturated with the liquid plaster-of-Paris, and cut into pieces sufficiently long to encompass the thorax, each piece overlapping the other to the extent of two-thirds. A second layer of bandages is placed over this, and the patient, encased in Sayre's knitted jacket, is then placed in the recumbent position in the bandages, each piece of which is then carefully brought forward to the median line, so that eventually the patient has a complete casing of six layers thick of these bandages, or sometimes even nine layers. The compound he uses consists of 1 lb. of plaster-of-Paris, 8 oz. of water, and 1 oz. of mucilage of acacia. Five turns of this is usually sufficient; the great merit of the plan is that it requires no apparatus.—Mr. BARWELL asked which gave the greater traction on the diseased structures, recumbency or suspension? Suspension by Sayre's apparatus was difficult of management, and he himself suspends entirely from the chest, the loops he uses passing transversely across the chest, and pressure being thus directed against the second rib. The patient is placed on a high stool, and only partially suspended. He considered Dr. Walker's plan excellent and ingenious.

The discussion was then adjourned to the next meeting.

OBSTETRICAL SOCIETY OF LONDON.

AT the meeting on November 6th (Dr. West, President, in the chair), the following gentlemen were elected Fellows: Izett William Anderson, M.D. (Jamaica), Edmund Overman Day, John C. Eaton (Ancaster), Richard Ellery (Plympton), Louis Henry, M.D. (Melbourne, Victoria), Nathaniel H. K. Kane, M.D. (Kingston Hill), Albert Angus Macdonald, M.B. (Toronto), and George Mowatt (Swansea).

Dr. AUST LAURENCE, of Clifton, showed the Uterus and Appendages of a Woman who died from Rupture of the right Fallopian Tube. The patient was admitted into the Bristol General Hospital, suffering from endometritis, and for this Dr. Laurence applied nitric acid to the interior of the uterus after previously dilating the cervix with a tangle tent. The woman did well for four days, when she developed symptoms of peritonitis and died in three days. The post-mortem disclosed general peritonitis, most marked in the pelvic region. The left Fallopian tube was dilated into a cyst; the right tube was very much dilated and thickened, and had given way; the contents escaping set up peritonitis, the interior of the uterus presenting the usual appearances of granular endometritis. Dr. Laurence did not attribute the fatal termination to the application of the acid. The immediate cause of the rupture of the tube was probably its over-distension by menstrual secretion, the portion which had become very thin giving way under the pressure. The act of menstruation was coincident with the development of peritonitis.—Drs. Barnes, Braxton Hicks, Playfair, and Edis made remarks, and the President expressed his entire agreement with their views, that the condition of the Fallopian tube led to death, and that the application of nitric acid had nothing to do with it.

Dr. AVELING exhibited a Regulator to be used with Paquelin's cautery. It was a simple and inexpensive screw-tap, made by Messrs. Mayer and Meltzer, which could be added by anyone having a thermo-cautery, simply by cutting the tube an inch from the handle, and inserting the extremities of the regulator into the cut ends. By turning a screw any heat may be produced and maintained.

Dr. JOHN BRUNTON exhibited a child suffering from Double Cephalhæmatoma. It was the first instance of the kind he had seen, though he had notes of several single ones.—The President, Dr. John Williams, Dr. Godson, and Dr. Aveling made some remarks.

Dr. HAYES showed the Uterus and Appendages of a woman aged forty-one, who had died in King's College Hospital. One of the ovaries was converted into a large unilocular cystic tumour, evidently of a malignant nature. The uterus was uniformly enlarged, and closely adherent behind to a dense carcinomatous mass, reaching downwards into the pelvis and upwards into the abdomen. Ovariotomy had been recommended at another hospital, but Dr. Hayes decided against it, because the fixity of the uterus led him to believe that this organ was diseased, probably secondarily to the ovarian tumour being malignant.

Dr. GALABIN related two cases of Rupture of the Vagina during labour. The first was that of a patient under the care of Mr. Sharman, of Gipsy-hill,—an enormously fat woman. She had had eight children previously. During labour the patient had got out of bed and strained violently upon a nightstool. Immediately afterwards the head was found to have descended to the perineum, and was quickly expelled through the vulva. Uterine action then ceased, and the fœtus was extracted alive. After twenty minutes, as expulsion of the placenta could not be otherwise procured, gentle traction was made upon the funis; but it broke and came away, leaving the placenta behind. On introduction of the hand a substance was felt, which, being carefully brought into view at the vulva, proved to be the large intestine, recognised by its longitudinal bands. The placenta could not be found, though the arm was introduced up to the elbow. The author saw the patient about eight hours after the rupture, and found that the posterior vaginal wall had been torn away from the cervix for more than half its circumference. The os uteri was closed, and the placenta not to be discovered. It was thought that it would give the only possible chance to the patient to perform gastrotomy, sponge out the blood from the peritoneal cavity, and search for the placenta. A jet of dark blood spurted out at the first puncture of the peritoneum, and more than two pints were found collected in front of the uterus. The placenta was also lying in front of the uterus and upon the top of the bladder. Symptoms of peritonitis set in the next day, and death took place forty-two hours after delivery. The second case was that of a patient forty-one years old, who had had ten children delivered naturally. She was attended in the Guy's Charity. The author was called to see what was said to be a case of placenta prævia, in which considerable hæmorrhage had taken place. He found that no presentation was within reach, and that the finger penetrated a long way without resistance. Chloroform being given, it was ascertained that there was an extensive rent in the posterior vaginal wall, separating it from the cervix. The fœtus and placenta had passed into the abdomen, the head of the fœtus uppermost. The posterior lip of the cervix, which was bilaterally cleft, and the peritoneal surface of the uterus, had been mistaken for the placenta presenting. As the patient and her friends, who were Irish, refused to allow gastrotomy, the foot of the fœtus was brought down through the vagina, but the occiput had to be perforated before the head could be brought through the brim, and the patient died shortly after delivery. In both cases the accident appeared to be due, not to any degeneration of uterine tissue, or any considerable disproportion between pelvis and fœtal head, or protraction of labour, but to a violent pain having occurred while the uterus was in a position of extreme anteversion, so that the fœtal head was driven against the posterior wall of the genital passage.—Dr. BRAXTON HICKS related a case in which lateral rupture of the vagina had occurred. He thought the obliquity of the uterus might have been occasioned by the position in which we place our patients in the country.—Dr. BARNES considered the cases important, as showing that spontaneous rupture of the vagina may occur during labour. Had the forceps been employed in either of these cases the practitioner would probably have been blamed for the result, and the laceration have been attributed to his manipulation. In fat women the tissues give way under slight forces. Cases of ruptured vagina occur suddenly in morbid tissues, and before there is any indication on which to act.—Dr. CLEVELAND referred to a practical point in the first case, and suggested that it might prove a useful warning under all circumstances to employ the utmost gentleness in attempting to bring down the placenta by traction on the funis. Although there was no evidence that undue force had been used, yet the fact remained, that had the cord not been unfortunately broken the placenta might have been cautiously traced to its resting-place, and removed without the operation.—Dr. MATTHEWS DUNCAN related the particulars of two cases of ruptured vagina, and remarked that when the great majority of such ruptures takes place the cervix and vagina form one tube, whose parts are distinguished chiefly by the rim of external os projecting. The vagina might rupture or the cervix might rupture, but the body did not. Vaginal ruptures are not rare, forming about a third of the whole.—Dr. GERVIS

mentioned two cases of ruptured vagina, in one of which the child and placenta had both escaped into the peritoneal cavity, and remained there undetected for forty-eight hours, putrefactive changes having begun; and in the other the rupture occurred in a labour in which the forceps had been used, and the collapse was attributed, prior to the detection of the vaginal rupture, to the continued influence of the anæsthetic.—Dr. ROPER remarked on the common features of these two cases. Each woman had had a large number of children, and the abdominal walls had become weakened, contributing the "pendulous belly" of pregnancy. He had seen such cases where the laxity of the abdominal muscles allowed the pregnant uterus to fall so far forward that its fundus pointed downwards. Under such circumstances the labours are exceedingly long and painful, and likely to end in rupture of the vagina at that particular part described by Dr. Galabin. The immediate restoration of the uterus to its proper position, so that its long axis and that of the child may correspond to the axis of the brim, is the first important step in treatment, and then timely aid with forceps is needed.—Dr. PLAYFAIR pointed out how very strongly these cases seemed to him to show the correctness of the practice he had long advocated, that after rupture of the uterus, when any considerable part of the child or the placenta had escaped into the peritoneal cavity, gastrotomy afforded the patient the best chance of recovery. This rule was not, however, generally taught in our obstetric works.

A paper was read by Dr. GEORGE ROPER, entitled "Some clinical remarks on a certain class of cases of Anteflexion of the Uterus, with certain correlated conditions." The object of the paper was to describe and differentiate a special class of cases of anteflexion of the uterus. In these cases the abnormal shape of the uterus was a congenital malformation, and was not either an effect or a cause of pathological change in its texture. The axis of the organ was a curve, with the concavity forwards; it was not bent at an angle at any one point. There was no softening of the tissues, but, on the contrary, rather rigidity, for the organ could not be easily straightened. This condition was often associated with deformity of the cervix and stenosis of the external os and canal. To distinguish this malformation from other kinds of anteflexion, the author proposed to call it "antecurvature" of the uterus. He believed this antecurvature was much commoner than any other kind of anteflexion, and that, in the unmarried especially, it caused no symptoms beyond those of dysmenorrhœa. He had noticed other kinds of developmental peculiarities, one or more of which generally coexisted with this malformation. These were (1) a short conical vagina, (2) a narrow perineum, (3) a conical distribution of the pubic hair, long hairs on the mammary areolæ, and an unusual amount of hair on the legs and forearms. The deformity of the uterus often gave rise to dysmenorrhœa from the canal being curved and narrow. The treatment of this was then considered. The author thought incision of the vaginal portion advisable when the cervix was much hooked. Incision of the cervix up to and through the internal os, sudden dilatation of the cervix by expanding sounds, of the use of tents, of intra-uterine stems, or of vaginal anteflexion pessaries he considered either inefficient or unsafe, and, therefore, objectionable. He had obtained excellent results from gradual dilatation of the cervical canal with metallic bougies; he believed this treatment to be quite free from risk, and therefore preferred it. There was also in these cases a condition of sexual nullity; sexual desire was absent, in many cases sexual intercourse was painful, and there was often vaginismus. He thought the co-existence of these conditions was not accidental, but that they were part of a general developmental defect. The pelvis, too, he thought, partook somewhat of the male type. The paper concluded with a description of two specimens of this antecurvature of the uterus, which were exhibited to the Society.—Dr. GERVIS considered the term antecurvature an unnecessary addition to the nomenclature already in use. He differed somewhat from Dr. Roper's conclusions regarding division of the cervix in some intractable cases of anteflexion, especially where associated with conical cervix and pinhole os. He had found it of much service, and since adopting the plan of applying the solution of perchloride of iron to the cut surfaces he had rarely, if ever, had any subsequent inflammation. The iron checked hæmorrhage, prevented any primary union, and greatly lessened, at all events, the risk of septic infection.—Dr. GRAILY HEWITT thought that Dr. Roper was attempting to draw too hard and fast a line between congenital and acquired anteflexions; he had failed to discover this difference. He attached no importance to the passage of the uterine sound being more difficult in one case than in another. The condition of the tissues of the uterus had much to do with the flexion being of great softness, not only at the point of flexion, but throughout. With reference to treatment, he had failed to discover the curative power of bilateral incision. He preferred tents and dilators, and the contemporary use of pressure outside by means of vaginal pessaries.—Dr. BRAXTON HICKS called attention to a peculiar type of flexions of a temporary character, which might be called amœboid, in which one doctor recognises an anteflexion and another a retroflexion, produced probably by contractility of tissue, perhaps the result of irritation in the ovary.—Dr. BARNES believed that pigmentation had not been sufficiently studied, for its bearings in diseases of women are of great importance. He considered a small os uteri frequently a complication of flexion, and in such cases lateral incision was of service, and would not interfere with the treatment of the flexion subsequently, by straightening the uterus.—Dr. AVELING denied that division of the cervix was repudiated by all sagacious observers. He had practised it, and found it of great service.—On the motion of Dr. Bantock, seconded by Dr. Wynn Williams, the debate on Dr. Roper's paper was adjourned till the next meeting of the Society.

Reviews and Notices of Books.

Elements of Human Physiology. By L. HERMANN, Professor of Physiology at Zurich. Translated from the Sixth Edition by A. GAMGEE, M.D. Second Edition, pp. 579. London: Smith and Elder. 1878.

IN the preface to this edition, it is stated that, the German text having been very materially altered, and in some parts entirely recast, many sections of the work have had to be retranslated from the last, or sixth, edition of the original. But this is by no means the only change in the work. Dr. Gamgee has introduced a very considerable amount of new matter, some of which has been so incorporated with the old that he has found it impossible to indicate by brackets or otherwise what has been added. The greater part of the new matter is, however, enclosed in brackets, and can be readily distinguished from the original. Another change is that a large number of illustrations have been added, especially in the section on the Nervous System, and Dr. Gamgee has taken the trouble to add notes of the references, a point wholly omitted in the original, and the verification of which is a very troublesome business. A great many names, however, still occur to which no reference is attached.

The additions made by Professor Gamgee are often of considerable importance, and much enhance the value of the book. To give an example. In speaking of the pressure of the blood in the vessels, Hermann mentions only two causes of variation: (1) the fulness of the vascular system—that is to say, the quantity of the blood,—and (2) the frequency and force of the contractions of the heart, for the greater the quantity of blood pumped by the heart from the veins into the arteries, the greater will be the constant difference in tension between the venous and the arterial systems. No doubt these are important causes of variation, but the Professor has omitted one which is of at least equal importance, which Dr. Gamgee supplies. "It varies," he says, "with the resistance which has to be overcome in forcing the blood from the arteries into the veins. This resistance is conditioned chiefly by the state of contraction or dilatation of the smaller arteries. When these are relaxed, the amount of blood which makes its way from the arteries into the veins between successive systoles is much greater than when they are contracted; the arteries, therefore, become less distended—i. e., the arterial pressure falls. On the other hand, when the small arteries are contracted, the

arterial pressure rises and the venous falls." In one or two instances, however, we question the utility of the additions which Dr. Gamgee has thought it advisable to make. Thus, in the section on the Gases of the Blood, an account is interpolated with the heading "Separation and Determination of the Gases of the Blood," a subject that, on account of its difficulty, we should have thought the author used a wise discretion in omitting; indeed, Professor Gamgee seems to have also come to this opinion when he had got half through the task he had set himself, for after giving a description of Geissler's mercurial pump and of the mode in which it is applied, he suddenly winds up the note with the short observation that, "having separated and collected the total gases given off by a known volume or weight of blood, these are measured and analysed," which does not convey much information.

In his description of the causes of the sounds of the heart, Hermann observes that some attribute "the first sound to the vibration of the tense membranous auriculo-ventricular valves, whilst others suppose it to be the muscular noise of the contracting heart." This is about as cautious a statement as can be made, and, in fact, implies that nothing is certainly known in regard to the cause of the first sound, which is, perhaps, going a little too far in this direction. Dr. Gamgee, however, adds in brackets an explanatory paragraph. We may, he says, with confidence admit that the causes of the first sound are certainly two—viz., the impact of the blood against the closed auriculo-ventricular valves, and the contraction of the muscular substance of the heart; and to these two some have added a much less important factor—viz., the impact of the apex of the heart against the thoracic wall. The word impact is, we think, happily chosen. It is defined in Latham's "Johnson" as collision, with special reference to its result as a driving or moving power, and the sound appears to be similar to that which occurs in a pipe when a tap is suddenly turned in such a way as to arrest the stream. A violent shock is experienced under such circumstances which will shake a room, and which is attended with a very loud and unmistakable sound, caused by the impact of the molecules of water against the tap, and the vibration of the walls of the conducting pipe. In regard to the part played by the muscular substance of the heart in the production of the first sound, it must not be forgotten that the contraction of the cardiac muscle is single, and not a series of contractions, and there is little evidence to show that the impact of the apex against the walls of the chest is productive of any sound.

Other points of importance introduced by Professor Gamgee are: An account of the cardiograph; an account of the modes of ascertaining blood-pressure; of the sources of fat, as deduced from the experiments of Messrs. Lawes and Gilbert; of the physiological rheoscope; and various sections under the head of the nervous system, the extent of the addition in the latter case not being always clear, as the terminal bracket has by accident been omitted, as on p. 363 and p. 368.

Notwithstanding the ability both of the author and of the translator, we doubt whether this will ever become a very popular work with the general student, though very valuable for the teacher and for the advanced student. It is, to begin with, highly condensed. The facts are arranged in tabular form, which, whilst it effectually prevents any high falutin—to borrow an American phrase,—yet gives an air of baldness that is not inviting, and is sometimes wholly unnecessary, as in the account of the excitability of nerves, where the several points are numbered and set-in in the printing when the text might just as well have been made continuous. The practice of introducing the name of the authority for any statement in brackets at the end of the sentence is irritating. The name might well be relegated to a note, and the text rendered continuous. Many of the subjects would bear considerable expansion. Thus Lymph is dismissed in little more than a page. If the student look to the subject of Digestion, he will find that the chemical processes and the movements are disposed of in ten pages. To be sure, he is told at the head of the chapter that the secretion and properties of the alimentary juices have been described in the preceding chapter, but this only occupies fifteen more. We must admit, however, that most of the facts that are positively known are introduced. Respiration, and Generation and Development, are also dismissed very curtly; the former scarcely occupying twenty-five pages, and the latter only thirty—a space quite inadequate to their importance. The symbols in the section on Chemistry are not very inviting, the pyramid indicating the formation of the acid, euphoniously christened "distearylglycerinphosphoric," assuming fearful proportions. In speaking of the fæces, Hermann enumerates amongst their constituents "a somewhat doubtful substance called excretin, $C_{78}H_{156}SO_2$ (Marcet). Now there is little doubt that Marcet's excretin was an impure preparation; but Hinterberger's excretin, having a formula $C_{29}H_{56}O$, is probably pure. Aleuron is not mentioned, though it is found in almost all parts of vegetables, and in some parts of animals, as in the vitellus, and is certainly as important as starch.

The account of the Nervous System, which occupies about one-third of the book, is, in our opinion, the best part of it. The functions of the several nerves, of the spinal cord, and medulla oblongata are all well worked up. We do not, however, quite see the use of separating the origins of the cranial nerves from the account of the functions of the nerves.

De la Paralysie du Moteur Oculaire Externe avec Déviation Conjugée. (On Paralysis of the Motor Oculi Externus with Conjugate Deviation.) By Dr. GASTON GRAUX. Paris: J. B. Baillière. 1878.

THE subject of "conjugate deviation" of the eyes in hemiplegia is an interesting one, and one too which still requires some complete anatomical explanation. The present essay is an attempt to afford that explanation, and is based not only upon clinical observation, but upon extended anatomical research. The following are the conclusions arrived at by the author:—1. That there is a limited area—the eminentia teres or nucleus of the sixth nerve—in the floor of the fourth ventricle, pathological changes in which determine paralysis of the external rectus muscle with conjoined paralysis of the internal rectus of the opposite eye, leading to the symptom of conjugate deviation of the eyes to the side opposite to the paralysis. 2. That in certain cases the internal rectus is not absolutely paralysed—i. e., it is only palsied when it is called upon to act in concert with the opposite external rectus, but when, as in near vision, it acts with the opposite internal rectus, it still retains its power. 3. The presence of this symptom of conjugate deviation is characteristic of lesion of the nucleus of the sixth pair; for it never occurs in peripheral palsies of the sixth nerve; and the clinical difference between these two forms of paralysis may be expressed by the statement that the secondary deviation of the unaffected eye consists in the former case (that of central palsy of the sixth) in an external strabismus, in the latter in an internal strabismus. The consideration of these facts has suggested to the author that the nucleus of the sixth pair sends fibres to the supply not only of the external rectus on the same side, but also the internal rectus of the opposite side; although the internal rectus is chiefly under the influence of the third pair of nerves. He has found on dissection (in the cat) a bundle of longitudinal nerve-fibres passing along the floor of the fourth ventricle from the

nucleus of the sixth on one side to the nucleus of the third nerve on the opposite. The consentaneous action of the eyes in lateral movements points to the existence of a common centre for the inner and outer muscles—viz., the nucleus of the sixth; whereas, in near vision, when both internal recti are called into play, together with the mechanism of accommodation, the centre for both is the nucleus of the third nerve. He would refer, then, all instances of "conjugate deviation" to lesions, direct or indirect, of the nucleus of the sixth pair.

Cases of Aneurism of the Aorta treated by Iodide of Potassium. By BYROM BRAMWELL, M.D. Edinburgh: Oliver and Boyd. 1878.

THIS is a reprint of a paper read before the Medico-Chirurgical Society of Edinburgh, and published in the *Edinburgh Medical Journal*. It contains full notes of ten cases of thoracic and abdominal aneurism, in six of which considerable relief was obtained by the administration of iodide of potassium in half-drachm doses thrice daily. As the cases seem all to have been considerably advanced, it could hardly be expected that cure could be obtained, and in some the relief was by no means lasting. They show, however, that the administration of the drug, when combined with rest, is of some value in the alleviation of symptoms. As a contribution towards the already extensive literature of aneurism, the essay is valuable, and its interest is enhanced by an appendix containing notes of a case of mediastinal tumour simulating aneurism, and one of extensive aneurism simulating solid intrathoracic tumour.

Analytical Records.

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WYETH'S DIALYSED IRON (FERRUM DIALYSATUM).

(S. M. BURROUGHS AND CO., LONDON.)

It is well known that this valuable remedy is a mixture in various proportions of ferric hydrate and ferric chloride, and that the less it contains of the latter the better it is. Wyeth's preparation is excellent. We find on analysis that the proportion of hydrate to chloride is so high that the latter can hardly produce any effect. It is almost free from styptic taste, and appears to be permanent. If for no other purpose, dialysed iron should always be kept as an antidote to arsenical poisoning.

RICINIC EMULSION.

(GALE AND CO., 15, BOUVERIE-STREET, LONDON.)

The nauseous taste of castor oil, which forms so strong an objection to its use, is disguised in this preparation with considerable success. Preparations of this kind are now in well-deserved favour, and this is an unusually good example of the class.

WARNER'S INGLUVIN.

(F. NEWBERY AND SONS, 37, NEWGATE-STREET, E.C.)

This new candidate for medical favour is said to be prepared from the gizzard of the common domestic fowl. It is highly recommended for bowel complaints and for vomiting in pregnancy. We cannot pretend to testify to its value, having as yet had no experience of its use, but from the American testimonials which come with it, it certainly appears to deserve a careful trial.

WARNER'S SUGAR-COATED PILLS AND IODIDE OF IRON PILLS.

(NEWBERY AND SONS.)

Like the last preparation, these pills are made by Messrs. Warner and Co., of Philadelphia. We can only say of them that they are of excellent quality. The iodide of iron pills, being protected from the atmosphere to a great extent, are little liable to change, and will be very useful.

CORONERS.

A BILL to amend the law relating to coroners was brought in by the Home Secretary, and the Attorney- and Solicitor-General some few days before Parliament was prorogued, avowedly in order that members might have a full and complete opportunity of studying its provisions during the recess. The importance of the Bill can hardly be exaggerated, for during the past four or five years the public temper has been roused, not to say shocked, by certain unseemly, if not disgraceful, occurrences at inquests, which we need not recapitulate, but some of which are still fresh in the minds of most of our readers. And hence it has come to be acknowledged that some change in the order of things is advisable if not imperative, if the coroner's court is to retain its ancient and undoubted usefulness and *prestige*, as a conservator of law and order, as well as of the liberty and safety of the subject.

"Crowner's Quest Law" is of great antiquity. County coroners were first appointed in the reign of Edward I., about the middle of the thirteenth century. They are, and always have been, chosen for life by the freeholders, and by an Act passed in 1843 were enabled to appoint deputies to act for them in case of illness. Since 1859 the number of inquests held in England and Wales has varied from 20,531 in that year, to 25,898 in 1877.

The changes indicated in the new Bill are neither very numerous nor very considerable, its tendency being rather to consolidate than amend. It is proposed that the officer should still be elected by the freeholders, and paid out of the local rates, and no one shall be eligible unless a barrister, a solicitor, or a duly qualified medical practitioner. The coroner shall be paid by salary, and, as heretofore, removable by the Lord Chancellor for inability or misbehaviour in the discharge of his duty. No coroner shall act as counsel or as solicitor in the prosecution or defence of a person for an offence of which such person is charged by an inquisition taken before him as coroner. And a medical coroner shall be disqualified from holding an inquest on the body of a person whom he has attended professionally at or within a month before the death of that person. The fees to medical witnesses remain precisely as at present—i.e., a guinea for evidence, two guineas for post-mortem and evidence, but without analysis, and ten guineas for an analysis and attending to give evidence thereon; but for the last the approval of the Home Secretary must be obtained. And finally, the old inquest clause is retained, by which resident medical officers of all hospitals charitably administered are not entitled to any fee whatever. The thirty-second section is new, and enables the coroner to order the removal of the body to any proper place provided by the sanitary authority if a post-mortem is required to be made; and the old section exists (that is not at the present time by any means invariably adhered to) in which it is enacted that the fees of every medical witness shall be paid *immediately* after the termination of the proceedings. There are some special sections relating to country districts, the coroner of the Queen's household, and parochial coroners, that have no medical interest. The Bill consists of sixty clauses, and three schedules, the first of which relates to the mode of election, the second to the forms of declaration and of oath, and the third to repealed Acts. There is nothing specially noteworthy in the first schedule, and we propose to reserve criticism so that our readers may have an opportunity of reading and digesting the provisions of the Bill.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 23, 1878.

THE sad calamity which has befallen the household of one of the most popular of the members of the Royal Family cannot fail to attract the attention, both of the public and the profession, to the fatal scourge which has afflicted them. It is not uncommon for a whole family to become affected with diphtheria, but it is rarely that this happens in Royal circles. The intelligence that the husband, son, and four daughters of Princess ALICE have all had the disease, and that one of them has died, cannot but lead to some fresh inquiries as to the nature, causes, and mode of prevention of this terrible malady. Even to the present day, diphtheria remains one of the most obscure and formidable diseases in our nosology. Though apparently constantly present in our midst, it is often only sporadic, and affects children almost solely; but from time to time it assumes a malignant character, attacks whole households, and adults as well as children. And as yet we seem to be more in the dark as to the causes which favour this malignancy and epidemic character than with regard to any other of the acute specific fevers. Nor is this all, for diphtheria appears, unlike most of the specific fevers, to be capable of origination by unknown conditions in regions where the operation of contagion can be almost certainly excluded.

There are, too, forms of disease which affect those who are suffering from other fevers, or are prostrated by continued wasting diseases, which so closely resemble diphtheria that we have as yet no certain means of distinguishing them from it, if indeed they are not identical with it. Again, the question of the identity of croup with the laryngeal form of diphtheria is one on which we may hope some light has been thrown by the recent report of the Committee of the Medico-Chirurgical Society; but, so far as we can gather from one reading of the report, the Committee do not pretend to have arrived at a final decision. Met at the outset by the question, "What is, and what is not, diphtheria?" they were no doubt in some degree hampered in the inquiry whether all membranous laryngitis was diphtheritic. But they appear to have leaned very strongly towards the opinion that a large part, at any rate, of so-called croup has its origin in the poison of diphtheria, and is indistinguishable from the laryngeal form of that disease. We have no doubt that the perusal of that report, an early opportunity for which is promised by the Medico-Chirurgical Society, will give us at least some fresh ground for the discussion of the question.

But, putting aside for the moment the subject of the manifestation of the disease, we may touch upon its origin and mode of spread. Not the least remarkable point in the natural history of the affection is the curious manner in which it sometimes springs up in a certain locality or district, in which it becomes epidemic, and for a time rages with the utmost virulence, affecting a large proportion of the population; whilst at other times it appears to be entirely endemic, limited to a certain house or houses, or even to certain rooms, to which it clings with the utmost tenacity, but shows little tendency to spread. An instance of the former class is to be found in the epidemic at Great Coggeshall, which was so ably reported upon by Dr. THORNE THORNE for the Local Government Board; whilst of the latter the outbreak in the Artillery barracks at Woolwich in 1874–75 is a striking example. In neither of these cases could the disease be distinctly traced to contagion imported from without — a fact to which more recent investigations have given especial interest. In yet other epidemics the disease has apparently been imported, and has spread as distinctly as cholera all over the land. Such appears to have been the case in the great epidemic of 1858-59; and the reports of the inquiries by Drs. BURDON-SANDERSON, BRISTOWE, and GREENHOW showed that in the most remote parts of the country the disease manifested itself with similar characters and equal intensity. It would seem, therefore, that by some unknown conditions the poison of the disease may either assume such a contagious character that it spreads in every direction, or that there are other conditions which favour its diffusion and are but rarely present.

The majority of the inquiries which have hitherto been made under the auspices of the Local Government Board have had reference to limited outbreaks in isolated localities. In nearly all of them the presence of foul health conditions, such as bad water-supply, absence of drainage, or soaking of sewage from privies into wells, and the like, have been detected. Not unnaturally there has been a tendency to attribute to these conditions a prime importance in the spread, and possibly in the origination, of the disease; and, as in the case of enteric fever, decomposing sewage has been believed to be capable, under certain conditions, of generating it. Diphtheria and enteric fever do certainly appear to go hand in hand, or rather to form close neighbours in a cycle of disease, for it is a common thing for an outbreak of enteric fever to precede or follow one of diphtheria in the same locality. But the evidence on the head of diphtheria has not yet been sufficient to convince scientific minds that diphtheria is, even in a minority of cases, diffused through sewaged water-supply or sewer gas, and far less is the evidence conclusive that putrescent sewage can originate it. In the case of the epidemic in north-west London the hypothesis of diffusion by drainage was suggested, but we have reason to believe that direct contagion both started and propagated the outbreak. We know as yet so little that speculation is abundant. The two lines of observation which seem to promise most are those suggested by recent inquiries for the Local Government Board. Dr THORNE in his report on diphtheria at Llanrhaiadr was led to suggest the possibility of the cultivation of the disease from a form of bad sore-throat, which he found had prevailed for some time before, and appeared to culminate in the epidemic of diphtheria. Another line is a widely different one, and we are informed that the results are still more startling. It has been apparently proved by the investigation of one localised outbreak that the milk-supply was the means of conveying the disease. And, from all the evidence which could be gathered with regard to this particular outbreak, there seemed to be no possibility of the

contagion having been introduced from an antecedent case. A not unnatural hypothesis, therefore, would be that either some disease, primarily one affecting bovine animals, is capable of being transmitted to man, in whom it takes the form of diphtheria; or, on the other hand, that diphtheria may be transmitted through the cow, whom it affects but slightly or in another form. We should in the latter case have the converse of small-pox, in that small-pox transmitted through the cow becomes mild, whilst diphtheria similarly transmitted becomes more malignant. But let us remember that this is at present little more than an hypothesis, which will serve to raise a new problem for investigation. It may be that enteric fever is also really transmitted in some cases through the cow to the milk, and not by the agency of admixture of water. Many outbreaks have now been traced to milk-supply, and where these have been capable of exact observation, there seem to be frequently some characters in the epidemic, both in the mode of onset and the course of symptoms, which are peculiar, and are not common in ordinary cases. Such are the sudden onset, the high fever in the early stages, the presence of sore-throat, marked constipation, and low mortality, which have been noticed to prevail widely in some such outbreaks. It is at least a very enticing field for inquiry, whether these diseases can be transmitted through animals.

The researches into the intimate pathology of diphtheria have as yet been to a large extent abortive. Many observers, such as OERTEL, LETZERICH, and NASSILLOFF, have asserted the constant presence of a specific growth of a lowly organism of fungoid or bacteroid character, but their observations are mutually conflicting and inconsistent, and have been contradicted by equally skilled observers. But if in any of the specific contagious diseases we may anticipate the final discovery of an independent growing organism, we may perhaps look for it with more hope of success in diphtheria than in any other, seeing what a strong vitality the contagion displays under suitable conditions.

Let us hope that long ere the pathology of the disease is completely elucidated, we may have discovered some mode of treatment which shall be more successful in severe and malignant cases than any which are at present in vogue, notwithstanding the multitude of vaunted specifics; and yet more, that we may be able to prevent where we cannot cure.

MEN of science are universally agreed that the metrical system of weights and measures is the best which has yet been devised, and in all matters requiring refined accuracy the metrical system is alone employed. On the continent of Europe the metrical system, since its first introduction by the French, has steadily gained ground, and at present the only first-rate Governments which hold aloof from it are the English, Russian, and American. America is beginning to give signs that she is ready to adopt a system which has been so beneficial both to workers and thinkers, and an order was recently issued to the officials of the Medical Department of the United States Navy to the effect that "in expressing quantities by weight the terms 'gramme' and 'centigramme' only will be used, and in expressing quantities by measure the term 'cubic centimetre.'" The medical profession in this country is, we must say it, strangely apathetic in making a reform which must come sooner or later. The sciences which are allied to medicine, and of which medicine may be regarded as the practical application, use the metrical system and nothing else; and in the classes of chemistry and physics the medical student is taught that the metrical system is alone of practical value in making scientific calculations. There is not, and there has not been for some years past, a single student admitted to the ranks of the medical profession who has not been made thoroughly to understand and appreciate the value of the metrical system. Why, then, we may ask, is not the metrical system made to replace the mongrel system which is alone admitted to the Pharmacopœia? Why have not the General Medical Council or the College of Physicians shown a due amount of activity in impressing upon the profession and the Government the advantage of adopting the metrical system, and why has it been left to the Pharmaceutical Society to influence Parliament to legalise measures which we ought to have abandoned twenty years ago? The following grotesque statement appeared in the *London Gazette* on August 30th—a week or so after Mr. SPOTTISWOODE had delivered his famous address on the value of mathematical accuracy:—

"*Imperial Standard Measures to be Used in the Sale of Drugs.*—Four fluid drachms, weighing 218·75000 grains; three fluid drachms, weighing 164·06250 grains; two fluid drachms, weighing 109·37500 grains; one fluid drachm, weighing 54·68750 grains; thirty fluid minims, weighing 27·34375 grains; twenty fluid minims, weighing 18·22917 grains; ten fluid minims, weighing 9·11458 grains; five fluid minims, weighing 4·55729 grains; four fluid minims, weighing 3·64583 grains; three fluid minims, weighing 2·73438 grains; two fluid minims, weighing 1·82292 grains; one fluid minim, weighing 0·91146 grains; also three fluid ounces, weighing 1312·50000 grains."

Here truly is mathematical accuracy to five places of decimals, but not beyond, for absolute accuracy is unattainable with such a system. The above, together with the quart, pint, and ounce, are henceforth the only legal measures, and it is of interest to bear in mind that a man may bring himself within the pale of the law because, mayhap, the exactness of his minims extends only to four instead of to the magic five places of decimals.

The standard of weight is the pound avoirdupois, which is divided into 7000 grains, the number seven being indivisible by any number, and certainly the most cumbersome to manipulate of all the nine digits. Notwithstanding that all the smaller weights contain fractional parts of a grain, it might, nevertheless, have been possible to establish some simple relations between weights and measures by making the minim equivalent to one grain of distilled water; but the difficulty of the whole thing has been vastly increased by making the minim equal to ·91146 grain! We are apt to laugh at the Russians for adhering to the Julian Calendar, but a nation which adheres so pertinaciously to weights and measures which have nothing but their antiquity to recommend them, has scarcely a right to laugh at anything.

We are well aware that the introduction of the metrical system for general trading purposes would cause a very serious, although temporary, embarrassment in commercial transactions, and we have little belief in making the bucolic mind comprehend the advantages of reckoning in grammes and metres. The profession of medicine, however, fully

understand the advantages of it, and it is almost our duty to be the pioneers in bringing about a great social reform. The profession standing between the exact sciences, on the one hand, and commerce on the other, would seem destined to be the starting-point of a change which must be gradual, but which once fairly started would be certain to become complete.

Why should the metric measures, of which we daily read, and in which we daily make calculations while pursuing the scientific branches of medicine, remain, as they undoubtedly are to most of us, mere abstractions requiring to be translated by a tedious process of reckoning into the grains and ounces, which to us are alone concrete entities? The saving of the labour which is entailed in translating metrical measurement into our own obsolete jargon is reason sufficient for the change we advocate. The correspondence between the gramme and the cubic centimetre is one of the greatest advantages of the metrical system, and the readiness with which the strength of a solution can be stated in the form of a percentage composition would prove to us, as it has proved to continental scientists, a very great boon.

The metrical system, which is now permissive in this country, ceases to be so on the 1st of January, 1879, when the new Act relating to weights and measures comes into force, after which date it will be lawful to buy and sell only by imperial measures, among which those of the metrical system are not included. For the purposes of science, however, the metrical system will be permissible, and we conclude that the writing and compounding of prescriptions is a science, so that the reform we advocate would be legal. If those bodies which should lead us in these matters would take the subject in hand, and give to the profession a Pharmacopœia with the metrical weights and measures and nothing else, we have no doubt that they would be legalised without difficulty, even for selling drugs; and we would suggest that a reform of this kind is really worth striving after, as one tending to lift the profession out of the rank of arts and mysteries into that of the exact sciences.

THE remarkable instances now and then seen, in which persons without hereditary tendency to phthisis become phthisical after long-continued attendance on sufferers from the disease, have suggested to many physicians the idea that phthisis is contagious. If there is such a contagion, the mechanism has been supposed to be the inhalation with the breath of fine particles of tuberculous sputa, atomised into the air by the patient's cough. An attempt has been made by Dr. TAPPEINER, of Meran, to ascertain whether by a similar means animals could be rendered tubercular, and the results of the experiments, which are published in the current number of VIRCHOW'S *Archiv*, are of great interest. The animals experimented on were made to breathe for several hours daily in a chamber in the air of which fine particles of phthisical sputum were suspended. The sputum having been mixed with water, the mixture was atomised by a steam atomiser. In all cases the sputa were from persons with cavities in their lungs. Dogs alone were employed in the experiments, since they very rarely suffer from spontaneous tuberculosis. The result was that of eleven animals experimented on, with one doubtful exception, after a period varying from twenty-five to forty-five days, all, being killed, presented well-developed miliary tubercles in both lungs; and in most of the cases tubercles were present to a smaller extent in the kidneys, and in some cases also in the liver and spleen. Microscopical examination was in accord with the naked-eye appearances.

The quantity of sputum necessary for the effect is certainly a very small one. In three experiments only one gramme of sputum was daily atomised in the air of the chamber, and the quantity of dry sputum must have been exceedingly small. Two ways are conceivable in which the infection is produced. The particles certainly may reach the alveoli, for powdered cinnabar administered in the same way was found to have stained the alveoli in twelve hours after an inhalation of only one hour's duration. But some particles may lodge in the mucous membrane of the throat and pharynx, and thence, being absorbed, may affect the lungs as organs specially predisposed. Hence some comparative experiments were made by feeding dogs with the same sputum as that employed in the inhalation experiments. Fifteen grammes were mixed daily with the food of each dog. In two dogs fed at Munich miliary tubercles were found in the lungs after six weeks' feeding; in six others fed at Meran all the organs were normal—a difference the explanation of which is not very clear. In the cases in which the disease was produced by feeding, the intestinal tract was affected, whereas it was free in those cases in which the inhalation was employed. It is remarkable that, with two exceptions, the animals, up to the time at which they were killed and found diseased, were well and lively, and indicated their disease neither by emaciation nor other external symptoms. This suggests that sometimes in man a miliary tuberculosis of the lungs may remain latent, and cause no symptoms until a catarrh, with foci of inflammation, sets up phthisis.

A preliminary account of these experiments of TAPPEINER led Dr. MAX SCHOTTELIUS to make some similar experiments, not only with the sputum of phthisical individuals, but also with that of persons suffering from simple bronchitis, and with pulverised cheese, brain, and cinnabar. The result was that miliary tubercles were found in the lungs in all cases, and in equal quantity with both phthisical and bronchitic sputum. Cheese produced a smaller quantity; pulverised brain still less; and the cinnabar least effect of all, merely a few whitish tubercles with pigmented centres, with an interstitial deposit of the substance, which had caused no inflammatory reaction. TAPPEINER has also experimented with calves' brain in two cases, but with purely negative results. No changes in the lung followed such as resulted from the inhalation of tuberculous sputum.

These experiments are of much interest, but they need repetition on a larger scale, in order that the discrepancies may be removed, before much weight can be attached to them as evidences of a specific influence of the phthisical sputum. They unquestionably show, however, that the inhalation of foreign organic matter will cause tubercles in animals naturally indisposed to their development. The appearance of granulations in other organs than the lungs in some of TAPPEINER'S experiments is a fact of great importance. Whether tuberculous matter produces tubercle when given in this manner more readily than other substances or not, it appears certain that different forms of organic matter

produce effects in different degree. It appears also that the inhalation of these substances is more effective than their administration by the alimentary canal. These are facts of great importance in regard to the question of the contagiousness of phthisis.

THE prospect—amounting now, we fear, almost to a certainty—of a war with the Ameer, and the advance of an army into Afghanistan, brings naturally under consideration the arrangements of the Medical Department for such a service. It is of the utmost importance that ample and efficient assistance should be ready for the sick and wounded, while at the same time it is essential to avoid all unnecessary waste and needless extravagance. We cannot afford to have another break-down such as we had in the Crimea, for the sake alike of our brave soldiers, our military reputation, and the heavy expenses which would be necessarily incurred. And yet, from information which has reached us, we entertain serious apprehensions on this head. We understand that the principal medical officer of the British troops in India prepared a scheme for the medical arrangements of the force, which met with the full approval of the Commander-in-chief. It was based upon the Field Hospital Regulations issued with the Army Circular of January last, with such modifications as he deemed advisable in connexion with the composition of the force—mixed European and native—and the nature of the climate and of the country which is to be the scene of operations. This scheme, which was forwarded with a strong recommendation by the Commander-in-chief, has been summarily rejected by the Government of India, and orders have been issued that the old system of regimental organisation shall be adhered to. The disasters attending this system as seen in the Crimea, and the success of the army organisation, as contrasted with the regimental, in the German army during the Franco-German war, appear to have been wholly thrown away on the Government of India. They ignore the improvements introduced into the medical service, after long and mature consideration, by the military authorities at home, decline the advice tendered by the officer on whom the responsibility of working the service falls, refuse to accept the recommendation of the Commander-in-chief, and doggedly adhere to the effete system still unfortunately in operation in India. In this they are taking upon themselves a very heavy responsibility. Judging from past experience, the regimental system will break down as soon as any pressure comes to bear upon it, and a change will be imperatively necessary under circumstances which will render it both very difficult and very costly. But in the meantime the effects may be most disastrous to many of the unfortunate sick and wounded.

But, in addition to the probable failure of the regimental organisation, another very grave consideration to us is the expense. If every regiment is to take with it its complete hospital establishment, with the requisite stores, servants, and transport, the difference of expense, compared with the establishment required under the new organisation, as laid down in the Field Hospital Regulations, will be very serious. At this moment, when so much is being written about Indian finance and the necessity for economy and retrenchment, surely this unnecessary waste of money is deserving of the attention of the Secretary of State for India. There is still another point of view from which this decision of the Government of India is most injudicious, and calls for earnest consideration. It is acknowledged that one of the greatest difficulties attending this war will be the provision of adequate transport for all the wants of the army. But if the system of regimental organisation is carried out, it will involve the necessity of at least double the amount of transport required under the army system. What can we say, then, to the conduct of those authorities who, with this great difficulty staring them in the face, deliberately add to it by refusing to adopt the recommendation of their responsible adviser, backed by the concurrence of their Commander-in-Chief. We trust that it is not yet too late for the Secretary of State to interfere to prevent the adoption of a system which will be likely to inflict much hardship and suffering on the sick and wounded, bring discredit upon our military organisation, add materially to our expenses in connexion with the war, and increase the already serious difficulty of providing the necessary transport for our army in the field.

Annotations.

"Ne quid nimis."

THE TROOPS IN CYPRUS.

THE 101st Regiment, which was removed from Cyprus on account of its inefficiency from the great prevalence of fever among the men, arrived at Halifax, Nova Scotia, on the 12th instant. It landed with 86 cases of malarial fever still under treatment. While the advent of cool weather has brought with it a marked reduction in the amount of fever among the remaining troops, the improvement in the condition of the 42nd Highlanders has been comparatively slow, and it has still a heavy list of men non-effective from sickness. We understand it has been decided to remove the regiment from Cyprus to Gibraltar. This is a step in the right direction, but we think it would be much better to bring it home at once to England. There seems good reason to fear that the tendency to fever which has been so strongly marked during its residence in Cyprus will again become developed as soon as the hot weather sets in at Gibraltar. We can see no reason why the regiment should not be brought home with a view to recruit its health in this country, instead of the half-measure being adopted of sending it to a colony where fever generally prevails to a considerable extent in the summer months, and where it will be exposed to solar influence—one of the exciting causes of fever which is supposed to have acted very injuriously upon the regiment during its brief sojourn in Cyprus. A turn of service in the United Kingdom appears essential to its restoration to health and efficiency.

The condition of these regiments naturally raises the question, who is responsible for their selection for duty in Cyprus? We have reason to suppose that neither the principal medical officer in Malta nor the Director-General at home, was consulted on the subject. Had they been so we do not believe that either of them would have considered it advisable to send the 42nd to a malarious station like Cyprus. The regiment had been employed in the Ashantee campaign, where it suffered a good deal from West African fever, and acquired a susceptibility to that form of disease which it will take years to shake off. The liability to the recurrence of malarious fever in men who have served on the West Coast is so well known that we feel sure it would

have been deemed a sufficient reason for not sending the 42nd to a station where it would be necessarily exposed, and under unfavourable circumstances, to the exciting causes of that disease. The 101st is one of the old European regiments of the Indian army, and although it had been for some years out of India, probably still had in its ranks a considerable proportion of men who had served in that country, and had there acquired a liability to fevers of malarious origin. There was at least sufficient presumption of this to have rendered some inquiry necessary before sending the regiment to garrison our new colony. But it does not appear that any such step was taken. The regiments were selected by the military authorities, possibly on sufficient grounds, but apparently without inquiry as to suitableness from a health point of view for such service. The responsibility, therefore, must rest with the staff of the Horse Guards, and the General Commanding at Malta. The unfriendly—shall we call it hostile?—feeling of the Duke of Cambridge towards the Medical Department is only too notorious in the army. Is it too much to expect that, where the lives, the health, and the general fitness of the men of any corps for special service are concerned, His Royal Highness should take counsel with the responsible medical authorities, and cause his subordinates to follow his example, in all cases where strategical considerations do not compel a contrary course and involve the necessity of risking the men's health? No such considerations existed in the present instance, and the responsibility for the break-down of these two corps must rest with the authorities who selected them without taking the precaution of consulting those most competent to judge of their fitness, and who could be called to account for the advice given by them. The military authorities do not yet appear to have realised the importance of the recommendations of Lord Herbert's commission, by which it endeavoured to ensure to the "advice and opinion [of the medical officers] that weight and influence in the administration of the army which are necessary to secure the health and maintain the efficiency of the troops."

NOXIOUS VAPOURS.

THE intelligent and practical report which closed the work of the Royal Commission on Noxious Vapours has naturally stimulated those who are interested in the subject to fresh exertions. On Saturday, the 16th inst., a joint meeting of the Lancashire and Cheshire and Manchester and Liverpool Associations for controlling the escape of noxious vapours from manufactories was held at Warrington. Five resolutions were passed, which were submitted to, and, in the main, approved by, the South-Eastern Sanitary Association of London. As a result, a deputation of nearly forty members of these influential bodies was received by Mr. Sclater-Booth on Tuesday last. The deputation was introduced by Lord Derby, who explained its objects with his usual terseness and lucidity, and expressed cordial approbation of them.

The Associations agree in desiring that all factories evolving noxious vapours shall be placed under the operation of one Act; that groups of factories shall be collectively liable; that efficient inspection by night as well as by day shall be provided; and that power of prosecution shall be committed to the local authorities. Some of these suggestions, which are in substantial agreement with those of the Royal Commissioners, embody such obvious common sense that we can hardly doubt they will be adopted. It is evidently absurd that a metal-worker, or manure-maker, shall be allowed to pollute the air, while the alkali-maker is restrained from doing so. It is also absurd to confine inspection to the daytime, it being notorious that the worst offences are committed at night, in the absence of responsible managers. And it is certainly not less absurd to deny to local authorities the power of protecting the unfortunate inhabitants of their districts, those inhabitants being, for the most part, powerless to protect themselves. Mr. Reilly's proposal, that groups of air-polluting factories shall be made collectively liable, deals with a difficulty which is harder to meet. It often happens that several factories lying close together are each liable to create a nuisance. When air-pollution occurs in such a neighbourhood, it is next to impossible to fix the blame upon any one, for each excuses himself by the small boy's plea, "It wasn't me." Such factories must be bracketed, or all will at times be unassailable.

The Northern Associations propose to vest in county boards the power of appointing and controlling inspectors, the expense to be met partly by county rates and partly by Government grants. This would probably be the best arrangement for rural, but hardly for large urban districts. To take, for example, one of the London districts. Many of the worst offenders in regard to noxious vapours reside on the banks of the lower Thames. It is from these factories that the members of the South-Eastern Association chiefly suffer, yet it would be evidently unfair to tax Dover, Ramsgate, and Margate for the inspection of these factories. A special district, including a slice on each side of the river from the City downwards, should, we think, be created for such a purpose. This exceptional difficulty in regard to the Thames was fairly stated by Mr. Spurling, the honorary secretary to the South-Eastern Association, who was, however, careful to express his general concurrence with the resolutions presented by the deputation, and who fortified the arguments of the northern speakers with powerful independent evidence.

One important point must not be lost sight of in dealing with the whole question. These chemical industries, unpleasant as they often are, are of vast importance to our country. It might well be a duty to submit to a considerable amount of mere discomfort, provided no serious loss of health were apprehended, if the only alternative were the infliction of permanent injury on manufactures on which so much of our commercial and agricultural prosperity and the daily bread of so many thousands of the working classes depend. But this alternative is not before us. As Mr. Heaton pointed out, the manufacturers would gain rather than lose by any well-ordered scheme of supervision. At present they are subject to laws which are capricious and expensive in operation. Any one of them may be singled out as the subject of legal proceedings, and made to pay costs and incur expenses, possibly ruinous, while his neighbour escapes scot free. Many of them live in constant fear of injunctions, and not a few have actually suffered from these deservedly dreaded engines of the law. But, under intelligent supervision, the manufacturer who is really anxious to avoid injuring his neighbours will find in the inspector a friend instead of an enemy. The inspector will, or should, have some discretionary power, will be able to advise as to the "best practicable means" for attaining the desired end, and will make due allowance for the difficulties of individual cases. We have been repeatedly assured that the more clear-headed of the manufacturers take this view of the matter, and are inclined to look with favour on the idea of systematic and universal inspection. "Treat us all alike," they say, "and harass no one without cause, and we shall be content."

The question has now arrived at a stage when it can no longer be neglected, even in favour of "imperial interests." There is really little in dispute between the public and the manufacturers. The satisfactory, though imperfect, working of the Alkali Act has formed a precedent which may safely be followed, and the evils complained of are so real and in-

crease so rapidly that some action is essential. We trust that Mr. Sclater-Booth will have a Bill ready for the opening of the new session.

THE LORD MAYOR AND HOSPITAL SUNDAY.

THE meeting of the Council of the Hospital Sunday Fund at the Mansion House on Monday is remarkable chiefly for the expression of the views of the Lord Mayor in reference to the use of the Mansion House as the head-quarters of the fund. The Mansion House and the Lord Mayoralty are so honourably distinguished in connexion with the origin of this fund and with its past success that all friends alike of the Corporation and of the fund must regret the determination of his lordship not to allow the continuance of the existing relations. These have, doubtless, been highly advantageous to the Hospital Sunday Fund, and the Council of the fund is well aware that they have been quite exceptionally favoured by successive Lord Mayors. But even Sir Charles Whetham must allow that the cause so favoured was unique in its claims, and that the Mansion House lost no credit in identifying itself with the cause of the sick poor and the hospitals of London and with the administration of a large fund raised for their relief. Perhaps the Lord Mayor will suffer more disadvantage by the step contemplated than the fund. Be this as it may, we would rejoice even at the last moment at some reconsideration of the decision of Sir Charles Whetham. It would be a bad distinction of a year of authority to damage, however unintentionally, a cause which commands the sympathy of men of all creeds and of all political parties, and which contemplates the benefit of the sick in all the London hospitals. It is not by such action that the Corporation of London has grown of late in favour with all classes of the people. The notion that no great mischief is likely to be done to the fund by its removal from the Mansion House cannot be entertained for an instant. The disturbance of business arrangements and the change of place must exert a serious practical influence on the fund, and tend seriously to diminish the subscription list. What makes the decision of the present Lord Mayor particularly ungracious is the probability that his successor will be induced to view the matter in another light, and that the fund will again be restored to a position from which, we take leave to say, it should never be displaced.

THE EXECUTIVE COMMITTEE OF THE MEDICAL COUNCIL.

THIS Committee, which does so much of the work of the Council, met on Friday, the 8th inst., and again on Saturday, the 9th. The minutes of the meetings cover nearly twenty pages, and include a great variety of subjects. An official notification of a change in the representation of the universities of Edinburgh and Aberdeen was read, so far at least as the share of the University of Aberdeen in making the appointment is concerned. This University and the University of Edinburgh, by mutual arrangement, alternately nominate the joint representative. The turn of the Aberdeen University having come round, it has appointed Dr. John Struthers. Doubtless the University of Edinburgh will acquiesce. Dr. Struthers' appointment will be hailed with general satisfaction in virtue of his experience and earnestness as a teacher. But all will regret that the Council should lose the services of Professor Turner, who has always brought to the discussions of the Council a great amount of both special knowledge and common sense. The Executive Committee received from their solicitor the intimation that he had taken counsel's opinion of the interpretation of Clause 6 of Section 11, referring to the registration in the Dentists' register of diplomas, degrees, &c., granted after examination by any of the medical authorities, "in respect of a higher degree of knowledge than is required to obtain a certificate of fitness under this Act." Mr. Charles Bowen is of opinion that "the knowledge referred to in that clause is confined to knowledge in dentistry." This is a serious and, we venture to think, a doubtful opinion. If well-founded, medical and surgical qualifications cannot be inserted in the Dentists Register. The great bulk of the business before the Committee had reference to the administration of the Dentists Act. At the end of each day's minutes the following sentence occurs:—"The Committee again resumed the consideration of the constitution of the Medical Council"—a statement more vague than satisfactory. We lately referred to the great pressure of work brought on all the officials of the Council by the Dentists Act, speculating as to the neglect involved in such a state of matters of the proper and original duties of the office. One of the minutes of the meeting on November 8th increases our fears on this point. It says that the Registrar represented that in consequence of the great stress of work caused by the registration of dentists, he had been compelled to devolve upon the porter certain duties in connexion with the registration! Five guineas were awarded to the porter as special remuneration. Very justly we have no doubt. But surely it is highly unsatisfactory to think of porters doing the work of registration. The Registrar reported that 1418 dentists had been registered. Of these only 120 were licentiates in dentistry of the Royal College of Surgeons of England, and 1298 claimed registration under clause (*c*) of Section 6, on the ground of being *bonâ fide* engaged in the practice of dentistry at the passing of the Act.

MORTALITY IN LONDON AND PARIS, 1877.

ACCORDING to the Registrar-General's Annual Summary the rate of mortality in London in 1877 was equal to 21·9 per 1000 of the estimated population. The *Bulletin Recapitulatif* of the Prefect of the Seine shows that the death-rate in Paris last year was 23·9 per 1000 of the population enumerated in 1876. This difference of 2 per 1000, however, does not by any means correctly represent the excess of the Paris mortality over that which prevailed in London in 1877. Whereas the proportion of deaths to population in most instances affords a trustworthy standard for measuring the rate of mortality in different towns, the age constitution of the populations of London and Paris differs so widely that it is impossible usefully to compare their death-rates without taking this disturbing element into consideration. In 1000 of the population, 130 in London and only 71 in Paris are of children under five years of age; 297 in London and 216 in Paris were aged between five and twenty years of age; 511 in London and as many as 642 in Paris are adults aged between twenty and sixty years of age; and 62 in London and 71 in Paris are aged upwards of sixty years. The rate of mortality among children under five years of age does not materially differ from that among persons aged upwards of sixty years; and the rate of mortality in a population depends in great measure upon the proportion between those living under five and over sixty years, and those aged between five and sixty years, when the rate of mortality is comparatively low. In 1000 of the London population 192 are either children under five years, or persons aged upwards of sixty years, while 808 are aged between five and sixty years. In Paris only 142 in 1000 are subject to the high rate of mortality, being children under five years, or elderly people; while 858 belong to the period between five and sixty years, when the rate of mortality should be low. According to the English life-table the normal death-rate of the London population, after due allowance for age distribution, would be 21·8 per 1000; while the Paris population would give a normal rate, calculated by the same life-table, not exceeding 19·8 per 1000. Thus, if the age distribution of the London population had been the same as

that of Paris, the rate of mortality last year would have been only 19·9 per 1000 instead of 21·9. The Paris rate of mortality in 1877, therefore, after taking into full account the difference in the age constitution of its population, exceeded the rate in London by 4 per 1000. Expressed in another way, in equal numbers living there were 120 deaths in Paris to each 100 in London, and the Paris mortality therefore exceeded that of London by a fifth, or 20 per cent. There are good reasons for believing that these figures rather understate the true excess in the Paris mortality compared with that of London. It is almost needless to say the small proportion of children in the Paris population is mainly due to the low birth-rate in the city, which did not in 1877 exceed 27·7 per 1000, while in London it was equal to 36·1.

SHOOTING LUNATICS AS A MEANS OF RESTRAINT.

TWO recent cases in which lunatics have been intentionally fired at and maimed, with a view to their restraint in paroxysms of murderous onslaught, afford serious matter for reflection. The operators were in each instance gamekeepers, and therefore presumably expert in the use of firearms; and the emergency was great, inasmuch as the madmen had weapons in hand which they were discharging, to the urgent peril of lives. Meanwhile it is not a pleasing thought that, after years of progressive enlightenment with regard to the nature and treatment of mental disease, no more rational measure of coercion should occur to a bystander than to treat a furious lunatic as if he were a mad dog or furious bull. It is doubtless in a legal sense "justifiable" to resort to extreme measures in such a case, but is the recourse unavoidable or even expedient? We cannot help thinking the time has arrived when not only experts in the management of the insane but the public should be able to devise and adopt measures of precaution less formidable. There is, however, a more urgent consideration underlying that suggested, and it is this: How comes it to pass that men in a condition to commit deeds of unreasoning violence are permitted to be at large? In one, at least, of the two cases to which we have alluded the lunatic had been recently discharged from an asylum. In the other it seems to have been known that the man was insane. Instances of this class point to the need of intermediate institutions between the asylums and the world, through which convalescent patients may be passed before being left to their own devices, and where the power of self-control may be tested under an unobtrusive discipline, gradually relaxed, until supervision is finally withdrawn. Sir Wm. Ellis, the predecessor of Dr. Conolly at Hanwell, advocated the formation of probationary establishments of the nature indicated; and it is strange that after the lapse of forty years the proposal should still need to be commended to the consideration of those upon whom responsibility rests.

THE FELLOWS OF THE ROYAL COLLEGE OF SURGEONS.

IN another column we publish the report by the President and Vice-Presidents of the Royal College of Surgeons on a recent memorial presented by certain Fellows, asking that the Council should convene, within the College, a general meeting of the Fellows, for the purpose of considering the suggestions contained in a letter addressed by Mr. Quain some months ago to the body of the Fellows. Mr. Quain advocated that the Fellows should meet once a year, to discuss matters of professional interest, and that between such meeting-times they should be represented, for certain professional purposes, by a standing committee of their number. He was, however, careful to explain that his "proposal is wholly independent of the charter and of the duties imposed by it on the Council and on the Fellows," and that his "subject is not within the province of the Council." The proposed meetings were intended to affect the social and political status of the Fellows rather than their functional relations with the College. On these grounds the framers of the report recommended the Council to reply to the memorialists that they did not feel themselves "at liberty to convene a meeting of Fellows to discuss the suggestions to which the memorial refers." This recommendation was unanimously adopted by the Council on the 14th instant, and has since been forwarded to each of the Fellows who signed the memorial.

DEATHS BY DROWNING.

A PARLIAMENTARY return which has been recently issued, at the instance of Mr. Birley, will prove of the greatest assistance to those who have been persistent in advocating the teaching of swimming in both boys' and girls' schools. Apart from its importance as one of the best methods of exercising the limbs and ensuring personal cleanliness, we can now form some estimate of its probable value in saving life. The return gives the number of deaths by drowning in the inland waters of England and Wales during 1877, distinguishing between men, women, and children, and also whether the deaths occurred in rivers or running water, in canals, or in lakes or ponds. The total number of inquests was 2662, of whom 522, or rather less than one-fifth, were held on females; 805 were on children—i. e., under twelve years of age; 1511 on males above that age; and 346 were on females. This analysis at once shows that, if swimming were thoroughly taught as a necessary branch of physical education in schools, a large proportion of 1800 lives might have been saved in one year only, for most people who are drowned in inland waters would save themselves or be rescued if they only knew how to swim, or even to float for some little time until help could be obtained. We may safely affirm that there is no inland water in the counties of Middlesex, Kent, and Surrey wherein a swimmer (of average skill and strength) should be drowned unless under very exceptional circumstances, and yet we find that 156 males in Middlesex, 95 in Surrey, and 73 in Kent were found drowned during the past year. Swimming associations around our sea-coast, baths in some of our inland towns and larger schools, and perhaps sensational feats in swimming, have done much to popularise this valuable art; but it is at once evident from this return that greater facilities for acquiring a knowledge of it are still urgently needed.

WHO'S TO BLAME?

ANOTHER "dying" man has been "locked up" as "drunk," and has thus been deprived of the slender chance of recovery that perfect rest and quiet would have afforded him! The facts of the case, as elicited at the inquest, were those with which the public are so familiar. A cabman was knocked off from a hansom, was given in charge by the proprietor of the cab as drunk, and was locked up accordingly. The next morning he was sentenced to a fine of forty shillings, or a month's imprisonment, and was placed in a cell; a few minutes afterwards he fell off his seat on to the floor and cut his forehead. A medical man was then called to see him, and, on hearing his evidence the magistrate discharged the man, who went home very ill and died in four days from the effects of a fractured skull. This is but a typical example of a class of cases with which we are now perfectly familiar—cases which are a scandal to our system of police. When will the official mind recognise the fact that there are other forms of stupor than that produced by alcohol, and that the distinction between them can only be made by medical men? It is most unfair to expect policemen to be able to diagnose drunkenness from the

diseases which may resemble it in their coarse features, and we must not blame them for failing to do so. But we think we are not unreasonable in appealing to the authorities to take steps at once to prevent the repetition of such painful blunders. All cases of unconsciousness and stupor, and where there are signs of injury, ought to be visited at once by a medical man specially appointed, whose fee should be added to the fine in cases of drunkenness, or charged to the patient's parish when serious injury or disease is the cause of the symptoms and he himself is unable to pay.

DINNER TO THE MEDICO-SANITARY STAFF OF THE RUSSIAN ARMY.

THE dinner proposed to be given by the profession in St. Petersburg to the medico-sanitary staff of the Russian army returned from active service, and to which we referred a short time ago, was held on the 10th inst., in the Hall of Nobles. Three hundred persons were present, and a pleasing enthusiasm characterised the proceedings. Dr. Fröbel presided, and Dr. Zdekauer gave an oration on the difficulties and dangers peculiar to the military medical man's duties when on active service, and complimentary of the mode in which these duties had been performed by the medical staff during the recent war. He recalled to the minds of his audience the inscription engraved upon the monument of the most illustrious surgeon of the Napoleonic epoch, Larrey—namely, "To the most virtuous of men," and said that these words equally applied to the Russian medical men who had served in the war. Other addresses were given, and Dr. Bogdanow read a series of verses written for the occasion. The address of Dr. Tchistovitch was received with great acclamation. He described the part taken by medical men during the war, and observed that, notwithstanding the large number required for the army in active service, it had been found practicable to give all requisite service without the necessity of having to seek help from foreign sources. He added that this was the first war in which this had happened—in other words, in which the medico-sanitary staff of the Russian army had sufficed for its wants. The zeal, the energy, the love of work displayed by the Russian medical staff, had triumphed over all difficulties.

THE NAVAL MEDICAL SERVICE.

THE *United Service Gazette* continues its articles on this subject, that of last week being mainly devoted to showing that the compulsory half-pay system is one of the chief evils of the service. Meanwhile we are still receiving letters on the subject, some of which characterise the line of action adopted by THE LANCET in terms so unmeasured that the writers can only be excused on the score of intense ignorance as to the ordinary amenities of journalistic discussion. We can, however, assure aggrieved naval surgeons, junior and senior, that our information is derived from trustworthy sources; that there *are* instances in which the half-pay system *is voluntarily* endured (or shall we say enjoyed?); that this system *is* common to the combatant as well as to the civil branches of the service; and that the evils are not quite so black as they are painted. However, if the army is held to be a preferable service, by all means let juniors choose it, for candidates are wanted very sorely. One of the lecturers in London, at the opening of the session, said (if we remember aright), "Choose neither"; and, our contemporaries notwithstanding, it is evident that both services are unpopular, partly because there are other and more remunerative fields of employment for young medical men, whereas, at the same time, the cost of (and other obstacles connected with) admission into the medical profession has very much increased, so that, having regard to the steady rise in the population, the medical ranks are not so abundantly recruited as formerly. The middle-aged and senior men in the service see and feel this state of things, and naturally wish for reform.

EXAMINERS AT THE ROYAL COLLEGE OF SURGEONS.

THERE will be a meeting of the Committee on Examinations in Anatomy and Physiology on Monday next, to receive the names of candidates nominated by members of the Council for the two vacancies in the Board of Examiners caused by the retirement of Messrs. Savory and Wagstaffe. The following gentlemen, all of whom are Fellows of the College by examination, are already in the field: Messrs. W. M. Baker, of St. Bartholomew's Hospital (diploma of fellowship dated Nov. 25th, 1864); Edward Bellamy, of Charing-cross Hospital (June 13th, 1867); H. G. Howse, of Guy's Hospital (June 11th, 1868); John Langton, of St. Bartholomew's Hospital (June 8th, 1865); Jeremiah M'Carthy, of the London Hospital (June 19th, 1873); Francis Mason, of St. Thomas's Hospital (Dec. 11th, 1862); A. T. Norton, of St. Mary's Hospital (June 13th, 1867); and Edmund Owen, also of St. Mary's Hospital (Dec. 12th, 1872). As the present members of the Board will no doubt be re-elected, the following hospitals will then be represented on the Board: St. George's, by Messrs. Holmes and Pick; St. Bartholomew's, by Mr. Power; King's College, by Mr. Wood; University College, by Mr. Heath; the Middlesex, by Mr. Hulke; and Guy's, by Mr. Durham. It will be seen that the hospitals *not* represented on the Board are—St. Thomas's, for which Mr. Mason offers himself; the Westminster, no candidate; the London, Mr. M'Carthy; Charing-cross, Mr. Bellamy; and St. Mary's, Messrs. Owen and Norton.

SMALL-POX IN LONDON.

THE Registrar-General's last weekly return showed a further increase in the fatality of small-pox in London. The fatal cases, which had been but three and nine in the two preceding weeks, further rose to sixteen in the week ending 16th inst., and exceeded the number returned in any week of the past three months. No death from small-pox was, however, recorded in any of the nineteen large provincial towns, which contain an aggregate population nearly equal to that of the metropolis. The fatal cases in London included twelve, which were recorded in the metropolitan asylum hospitals, and four in private dwelling-houses. Three of the deceased small-pox patients had resided in the west, and thirteen in the south groups of registration districts; of the thirteen latter fatal cases, four belonged to Newington, four to Southwark, three to Camberwell, and two to Lambeth. Two of the fatal cases in private houses occurred in Newington, one in Lambeth, and one in Bermondsey. The number of small-pox patients in the Metropolitan Asylum Hospitals, which in the four preceding weeks had steadily increased from 91 to 119, further rose to 128 on Saturday last. The number of new cases of small-pox admitted to these hospitals during last week were 32, against 34 and 37 in the two previous weeks.

AERATED WHOLE-MEAL BREAD.

THE late Dr. Dauglish's process for the manufacture of bread has proved extremely applicable in the production of whole-meal bread. When whole-meal flour, which contains the outer coverings of the wheat as well as the internal white part, is leavened with yeast, the fermenting substance known as cerealin, acting like diastase on the starch of the meal, produces a very heavy dough, so that to ensure success two steps in the process of manufacture are required. By the aerated process, as it is now carried out by the Aerated Bread Company, the process is performed in one act, that of

making the dough by directly charging with carbonic acid. The bread so produced is never touched, in its making, by hand or foot, and is of perfect quality. The late reporters to the Government on prison dietaries report of whole-meal bread that it contains 10 per cent. of flesh-forming materials, as compared with the 7 or 8 per cent. of white bread. To the profession it is most important to have the whole-meal bread at command in many cases, while the public cannot be too widely informed of the folly that is constantly committed in giving preference to the white bread over the wholesome and all-sustaining whole-meal brown wheaten loaf.

CONSUMPTION OF ALCOHOL AT THE MANCHESTER ROYAL INFIRMARY.

THE sub-committee of the Medical Board of the Infirmary presented, on Tuesday last, their report on the Consumption of Alcohol, and on the best mode of regulating the future supply of this drug. The report stated that the consumption of spirits was, relatively to the number of beds, larger in the Manchester Infirmary than in any hospital in England, except St. George's, London, and gave a comparative table of the quantity used during the year 1877 at St. George's, the Manchester Infirmary, and the Queen's Hospital, Birmingham, from which it appeared that the consumption at St. George's amounted to 30 oz. per bed, at the Manchester Infirmary to 12 oz., and at Birmingham, which was about the lowest of all, only to 3 oz. The quantity of spirits actually consumed in 1877 was 305 gallons, of beer during the same period 1784 gallons, and of wine about 70 gallons.

The report recommended that, for the future, the order for stimulants should be in operation for only three days, at the expiration of which time a fresh order-card should be issued, or the order lapse. By this means they hope to diminish a consumption which they very justly consider as excessive. A further suggestion, that the alcoholic stimulants ordered should be confined to whisky and beer, did not meet with general support, and therefore was not included in the report adopted.

YELLOW FEVER.

DR. WOODWORTH, Surgeon-General of the United States Marine Hospital Service, sends us a synopsis of news relating to this epidemic up to the 2nd inst., which is, on this occasion, more hopeful. Only 83 new cases are reported as having occurred during the week at New Orleans, and 109 deaths. The Board, however, received a list of 288 old cases not previously reported. Morgan City sends a record of 8 deaths; Baton Rouge, 16; Mobile, in Alabama, 10; Decatur, 2; Port Gibson, "about" 10; Grand Junction, in Tennessee, 74; Milan, in Tennessee, 6; Memphis, 22; Chattanooga, 12; and Gallipolis, 2. The first case in Mason, Tennessee, occurred on Aug. 29th in the person of a refugee, and the first case among the inhabitants on the 4th ult., since which there have been 60 cases and 24 deaths. No cases or deaths are reported during the week as having occurred in Louisville and Key West.

THE DRAINAGE OF GLASGOW.

THE *Sanitary Journal* for the current month has a long article descriptive of the present sewerage arrangements in the city of Glasgow, and of three alternative schemes proposed by way of remedying the present unsatisfactory state of things. Mr. J. F. Bateman, C.E., who has been called in as consulting engineer, recommends the adoption of a plan that involves the collection of the whole sewage from both sides of the river, and its conveyance to the south side towards the parish of Govan, "there to be treated as required"—the plan of treatment not being specified. By this plan, about 53 per cent. of the present sewage would require to be raised by pumping an average height of 22 ft. The length of the main intercepting and outfall sewers would be about 16½ miles, varying from 3 ft. to 8½ ft. in diameter, with about 12 miles of branch sewers. The total cost of the works is estimated at £661,000, and the annual cost of pumping about £2200; but the former sum does not include the price of the land, or any of the sewage-disposal works. The area required to be dealt with is about 15,000 acres, and the population is estimated at 710,000 persons, or 48 per acre. The scheme is so far incomplete that nothing is said as to separating the storm water from the sewage. The report from which we gleaned these particulars quotes indeed a remark of Sir J. Hawkshaw to the effect that analyses of the water collected in the London streets show it to be little better than sewage, and it is assumed that the same state of things exists in Glasgow. But is this unavoidable? The separate system of course assumes that the storm-water is sufficiently pure for immediate discharge into the nearest watercourse, and that the old drains are utilised for this purpose. But if that water requires purification, its separation from the sewage proper would be a costly and useless proceeding. The authorities of Glasgow and London had better lay their heads together, for both seem in this matter to be rowing just now in the same boat.

THE CITY OF LONDON SCHOOL.

MOST of our readers will have observed that the Corporation of London, at a recent meeting of the Court of Common Council, have resolved to remove the City of London School from its ancient site in Milk-street to the Blackfriars end of the embankment. Plans are to be sent in for competition, as well as those submitted by the City architect. This appears to be a somewhat unnecessary proceeding. As to the wisdom of changing the site there cannot be two opinions. But if Mr. Horace Jones were associated with someone well versed in sanitary matters, who would prevent (as is hinted somewhere) the erection of a closed quadrangle, and import into the plans of the architect some elementary principles of sanitary science, a structure might be the result that would do credit to the architectural taste of the Court of Common Council, and show at the same time that the members are fully mindful of the importance of giving boys plenty of good air, whether at work or at play.

CHOLERA IN MOROCCO.

THE *Mediodia* of Malaga reports the appearance of cholera in Tangiers, and adds that the disease has originated there in consequence of the English representative in that town having induced the local government to suppress quarantine. The Madrid journal, the *Imparcial*, doubts the accuracy of this news, and we doubt also. The quarantine which lately existed at Tangiers, and which was suppressed on account of remonstrances of the British representative, was a quarantine against Gibraltar which had been established ostensibly on account of small-pox existing there, but in reality as a tit-for-tat procedure, Gibraltar having put Tangiers in quarantine in consequence of cholera existing in the interior of Morocco.

GAS AS A VENTILATOR.

ATTENTION has been recently called to the value of gas in ventilation. When burned in the mouth of a ventilating-shaft, as in the apparatus in use in the law-courts at Westminster, it of course produces a powerful upward current which helps in carrying away the foul air of the room. It acts still better in a double tube ventilator, the one tube carrying away the foul, the other admitting the fresh air. Neither of these contrivances is,

however, in very common use. More often the gas-burners are the great foulers of the air, not only removing oxygen from a room, but also introducing carbonic acid and sulphuric acid into it. The arrangements of our rooms, both as to heating and lighting, are generally as senseless as possible, and if the electric light should come into common use, we fancy that builders and architects between them will manage to make a muddle even of that. Ventilation would still be necessary for healthy respiration, and it appears probable that the enormously high temperature would produce combustion of the nitrogen of the air. In that case it would obviously be absolutely necessary to carry away the nitric acid so formed.

THE ABSORPTION OF SUGAR.

THE path by which sugar is absorbed has been investigated by v. Mering. No narcotics were used, since they all, including curara, have a tendency to induce the appearance of sugar in the urine. Mering made some preliminary experiments in which he was able to substantiate neither Dr. Pavy's statement, that muscular exertion and dyspnœa increased the quantity of sugar in the blood, nor the statement of Bernard, that sugar quickly disappeared from the blood. On the other hand, he corroborates Bernard's remark, that the blood contains more sugar after repeated venesection. The sugar appears to be chiefly contained in the serum, the blood-corpuscles containing very little. The serum of blood taken from the carotid contained in eight examinations 0·115 to 0·235 per cent. Dogs were fed, after long fasting, on starch, and, after from two to six hours, killed, the stomach and small intestine ligatured and removed, and washed out with alcohol. The stomach contained unchanged starch, amidulin or soluble starch, dextrin, and erythro-dextrin. The small intestine contained sugar, and starch, but no dextrin, and small quantities of lactic acid. Examination of the amount of sugar in the chyle of flesh-fed, as compared with sugar-and-starch-fed, dogs showed no remarkable difference, so that there is no reason for thinking that sugar is taken up by the absorbents and transmitted through the thoracic duct. The examination of the venous blood led clearly to the result that the absorption of sugar is chiefly effected by the veins, the serum of the carotid and portal blood always containing a larger amount of sugar than normal.

SICKNESS OF THE RUSSIAN MISSION IN AFGHANISTAN.

IT would appear that the Russian mission in Afghanistan is about as badly circumstanced as to sickness as our own expedition to Cyprus. The *Turkestan Gazette* (according to the *Journal de St. Pétersbourg*) reports that the mission at Cabul, where Major-General Razgonow has succeeded Major-General Stolétow as head of the mission, is suffering from the climate of Afghanistan. Nearly all the members of the mission have had "fever"—malarial fever, it is to be inferred from the notable consumption of quinine; for it is particularly noted that the mission carried with it, among other things, three pounds of quinine, and that this allowance is nearly exhausted. It is added, however, that part of this consumption is due to a generous distribution of the valuable drug among Afghans sick of "fever."

SANITATION IN SURREY.

OUR attention has been called by Dr. E. L. Jacob, the indefatigable medical officer of health for parts of Surrey, to an interesting outbreak of pneumonia on Holmwood Common. It appears that this epidemic commenced as long ago as December, 1876. Eighteen cases occurred in the following six months, eight of the patients being men and ten children. Five were removed to the Dorking Cottage Hospital, and three others died. "None of the illnesses," says Dr. Jacob, "were attributed to exposure to cold or wet, but the site of the houses is decidedly damp during the greater portion of the year. The general sanitary arrangements of the premises were not found to be bad, and no particular water-supply, milk-supply, or sewer appeared to be responsible for the origin or spread of the disease. There was also little or no evidence that the disease had spread from house to house by contagion." It is matter for regret that the cause of this outbreak was not ascertained.

THE REMAINS OF HARVEY.

WE propose next week to publish a special article from the pen of Dr. Richardson on the remains of the immortal discoverer of the circulation of the blood. The author has recently visited the church at Hempstead, in Essex, where Harvey lies, and has had photographed all the important historical mementoes, copies of some of which will be reproduced in our columns. The publication is intended as a further contribution to the literature of the tercentenary year of the birth of the greatest and most original of English anatomists.

IT appears that no provision is made in naval or marine barracks in the United Kingdom for the sick families of the men quartered therein. Some accommodation (though this is of a meagre character) of this kind is provided in army barracks, but in the former case its absence results in great risk to all the other inhabitants if an outbreak of any zymotic disease occurs; for, as the *Army and Navy Gazette* points out, the patients must either be removed to lodgings outside, or remain in the barrack, at the manifest risk of spreading the disease. The obvious remedy would appear to be to provide accommodation in that portion of the barrack hospital set apart for the treatment of infectious cases.

THE *Army and Navy Gazette* reports that the health of the Imperial Russian Guards, who have recently returned to the capital from the seat of the late war, is very unsatisfactory, and that, according to various medical reports promulgated, it has been found necessary to "quarantine" several of the best corps. What does "quarantine" in this case mean? The word is now used in so loose a sense that, as to isolation, it may mean anything or nothing. In the United Kingdom, afloat as well as ashore, quarantine, as it used to be interpreted, is practically abolished, even in the presence of cholera, and the word had in future better be expunged from all new laws relating to public health.

THE Howard medal for the year 1877, together with a sum of twenty pounds, has been awarded by the Council of the Statistical Society to Surgeon John Martin, of the Army Medical Department, for the best essay on "The Effects of Health on Military and Naval Operations." An extra medal has been awarded to Captain Hildyard (71st Highland Light Infantry), whose essay, though not equal to Mr. Martin's, was considered so good as to merit some special recognition.

DR. ANNINGSON, of Caius College, has been appointed by the College to deliver the Thurston Speech. This speech—on the progress of medicine since the time of Dr. Caius—is delivered annually on May 11th, the commemoration-day of Dr. Caius.

A MEETING of the Committee of Reference, appointed under the Conjoint Scheme, was held at the College of Surgeons on Thursday last, to further consider the reports to the several medical authorities on the regulations for carrying out the scheme.

WE are gratified to find St. Thomas's Hospital taking the lead in a movement so liberal and generally in accord with the spirit of the times, as that often urged in our columns, for appropriating some of the wards in large institutions for the reception of patients who can pay the expenses of their own maintenance. The matter is of high interest and great importance. We shall revert to the question at an early opportunity.

THE inhabitants of the town of Crewe have just presented to the Mayor and Corporation of that borough a full life-size oil painting of Alderman James Atkinson, J.P., M.R.C.S., of Mirion House, Crewe, he having been the first Mayor of the borough of Crewe, and having filled the civic chair two years successively.

AT a meeting of the University College Medical Society, on Tuesday, December 3rd, Dr. Michael Foster will deliver an address on the "Use of Physiology to Medical Students," at 8 P.M., in the Botanical Theatre, University College.

ABSTRACT OF THREE LECTURES

ON THE POSITIVE IN REMEDIAL ART.

Delivered before the Faculty of Physicians and Surgeons of Glasgow in the Session 1878.

BY B. W. RICHARDSON, M.D., LL.D., F.R.S.

(Continued from p. 735.)

I HAVE conducted a line of research with oxygen, in order to ascertain what is its direct influence on muscular irritability after systemic death. In this direction of inquiry the neutral gas, under differing conditions, was injected through the arteries into the bodies of animals recently dead, the irritability of the muscles being regularly tested by the faradaic current and compared with that of muscles of the same body which had been separated from the influence of the gas. The results are exceedingly uniform. At a temperature of 55° the effect of oxygen on the muscular irritability is practically *nil*, but at 75° the effect is to increase the irritability to such a degree, that the slightest excitation will call it forth. The increased irritability is, however, very brief in duration, and in respect to the continuance of irritability, there is reduction of time. The excited action hastens the completion of motion by leading to a permanent rigidity of the muscular fibre.

At higher temperatures, as at 115°, the effect of the oxygen current upon the muscle is to produce, first, a rapid muscular movement without any application of external stimulus, soon followed by cessation of motion from the occurrence of rigidity. This effect I believe to be due not to the oxygen, but simply to the elevation of temperature, for I have produced exactly the same results by the injection of water, raised to the same temperature, through the arterial circuit. In one instance in which a dead animal was kept at the reduced temperature of 20° F., the injection of water at 115° reproduced general muscular irritability in the voluntary muscular fibre three hours after death. Electric or ozonised oxygen injected into the recently dead body by the arterial circuit leads almost immediately, in muscle recently dead, to general solidity of the structure. At the same time there is developed opacity of the crystalline lens, the whole effect being, I think, due to coagulation of colloidal matter, not to what may be strictly called contraction of muscular fibre.

It would appear at first sight an easy experiment to surcharge the blood with oxygen while it is circulating in the vessels, and thereupon to learn the modifications or changes that would occur in a living organism thus treated. In truth, however, this cannot be done at the ordinary atmospheric pressure, except under an elevation of temperature, when there is increased evaporation and simply increased waste, with urgent demand for food. The blood takes up oxygen in proportion to the amount of carbonic acid that is brought to the pulmonary surface to exchange with oxygen. Direct experiment, consequently, fails us here; and well is it it is so, for if there were any serious and ready source of fluctuation in respect to absorption of oxygen, the most important organic disturbances would follow, perchance, upon trivial causes. We have, however, on record the most extraordinary natural experiment which tells us much that we require to know on the subject now under consideration.

The late Dr. Mayne, of Dublin, one of the most accomplished observers of our time, met with a woman who was proved after her death to have the opening of communication, which in intra-uterine life lies between the right and left auricles of the heart, the foramen ovale, left open in such a manner that the blood, after it had traversed the lungs and had been exposed to the air, found its way in part back from the left into the right side of the heart. Owing to this condition there was always passing around the circuit of the body of this patient a blood surcharged with oxygen. The resultant symptoms were that her body was at all times bathed in profuse perspiration, so that her garments had to be changed two or three times a day. Her muscular power was much reduced, the smallest amount of exercise wearing out the contractile action. The nervous power was equally feeble, and at the age of twenty-one years death suddenly occurred after some simple act of exertion.

The effect of condensing oxygen gas, by pressure, into the blood while it is in circulation through the body is somewhat similar. The blood takes up more oxygen for the time, with, even at a pressure of one additional atmosphere, a change of colour of the venous blood to the arterial hue. Under such increased absorption of oxygen, the waste of structure and the exhaustion of power under muscular exertion are greatly augmented, and these losses progress as the pressure is raised. This subject has been most carefully studied lately by Dr. Andrew H. Smith, of New York, and his report on it is given in his prize work on what he calls the "caisson" or coffer-dam disease. Dr. Smith has had unexampled opportunities of watching the effects of an increased atmospheric pressure on men working under pressures varying from one to four additional atmospheres, and he supplies a rule which is singularly comprehensive in its teaching. Taking it for granted, he says, that a man may labour for twelve hours under the ordinary atmospheric pressure without detriment to health, then with an additional pressure of one atmosphere, or fifteen pounds, he can only work half that time; with three atmospheres a third; with four atmospheres a fourth. In other words, the time is inversely as the pressure.

These observations on the influence of oxygen, under pressure, on living function require to be extended further by another series of observations, in which the pressure should be supplemented by various conditions of temperature. I once commenced this research, but was prevented by the exigencies of practice from carrying out a labour that required an incessant personal observation and a constantly varying detail. But, therapeutically, the inquiry is of immense moment. What facts I did arrive at were full of promise. I found that pure oxygen reduced to a temperature of 5° Fahr., and submitted to the pressure of one additional atmosphere, narcotised warm-blooded animals as rapidly as nitrous oxide narcotises, but with the production of the arterial colour in the venous blood. I found that pure oxygen at 75°, subjected to the pressure of an additional atmosphere, increased the action of the muscles of respiration and of the heart so greatly, and caused such complete relaxation of the muscular fibre, that the effect permitted only of being compared with that which is produced by the inhalation of nitrite of amyl.

THERAPEUTICAL VALUE OF OXYGEN.

As we have not yet before us the whole of the required data for coming to a positive conclusion as to the action of oxygen on the living subject, we cannot see its full positive value as a therapeutical agent. At the same time we have a great deal of positive information concerning it, which is of some value, and which should be generally understood. In addition to the well-known service of oxygen as the supporter of animal combustion, and thereby as the direct supporter of animal life, we see that when it is brought into the body in such manner as to do more than simply support the animal temperature, it is a relaxant. Its action on the vaso-motor system is to relax. This is even the case when it is used in the active state as ozonised oxygen, though probably not to the same extent. Combined with heat,

below the point when heat begins to exercise a special action of its own, the relaxation caused by neutral oxygen is still more decisive. The relaxation produced is extended to all parts that are regularly fed by nervous stimulus, whether that be of the voluntary or involuntary order. Hence there is profuse secretion produced from the glandular system, and from the cutaneous glands especially. Hence there is a relaxed condition of the muscular fibre, voluntary and involuntary. Hence a sense of weariness is soon induced in mental function, with what is called nervous exhaustion.

Therapeutically, the positive place of oxygen is, first, as an antispasmodic. For excesses of activity of nervous action, leading to what are called spasmodic or tetanic conditions of body, oxygen is a positive remedy. It may not of necessity be in every such case a powerful or instant remedy, but whether it be powerful or not, the positive direction of its action as an antispasmodic is definite.

In this therapeutical point of view, oxygen raised in temperature to 75° or 80° F. combines admirably with other volatile antispasmodic remedies, and with none so well and effectively as with vapour of the nitrite of amyl. In acute spasmodic asthma, when there is little excess of secretion in the bronchial tubes—that is to say, when the obstruction to breathing is purely from spasm, the inhalation of amyl nitrite in an atmosphere of warm oxygen is the most immediate of reliefs I have ever witnessed. The difficulty of administration is all, indeed, that stands in the way of the general adoption of this plan. To apply the remedies in combination, a bottle of compressed oxygen or a large reservoir of the gas must be at hand; an intermediate bag for the holding of the gas ready for its respiration is next required; the escape-tube from the bag has to be connected with the nitrite inhaler; and, finally, unless it be summer weather, the temperature of the gas has to be artificially raised to the necessary degree, which must not be less than that of summer heat.

In addition to its action as an antispasmodic, oxygen, at a raised temperature, is an eliminative, and that for the same reason as it is a relaxant. We have here again in this fact a positive therapeutical indication for its use. In extreme spasmodic diseases—in tetanus, for example,—where we want to reduce spasmodic action, and at the same time to eliminate freely, the use of oxygen stands out in the most perfect order. Some years ago Sir James Paget treated an extreme case of acute tetanus, in St. Bartholomew's Hospital, by subjecting the sufferer for several days to the inhalation of oxygen gas. With the spirit, kindness, and thoughtful consideration which never desert Sir James Paget, he was good enough to remember that the therapeutical observations then being carried out would be specially interesting to one who was making the action of oxygen a subject of experimental research. He therefore invited me to visit the patient with him, which I did. The tetanic paroxysms at the time of my visit were subsiding, and the man expressed himself as greatly relieved. The most remarkable feature of his case, after the fact of the relaxation of the spasm, was the elimination that was in progress. The man was literally bathed in perspiration, and had, I learnt, been so for many hours. The surrounding temperature was very high, and the oxygen, true to its course in that condition, was acting most usefully. It was not only relaxing the muscular fibre, but was causing profuse elimination. In this case the administration of the gas, in an ordinary ward of the hospital, was a troublesome and imperfect process. In order to make such administration easy, precise, and perfect, there ought to be in every hospital one or two inhaling rooms in which the patient could breathe, without the impediment of an inhaler, any atmosphere the physician or the surgeon might wish to prescribe, and at any temperature he might think most desirable.

I press this double action of oxygen, its relaxant action and its eliminative, specially on your attention. The combination of these two remedial measures is one of our most frequent necessities in practice. When I was making my first experiments with nitrite of amyl, and was testing its power to overcome the tetanic spasm induced in the frog by strychnine, I found no difficulty in relaxing the spasm and in keeping it relaxed, but I did find great difficulty in getting the strychnine eliminated from the body of the animal, and until that was effected the paralysing action of the nitrite was tentative only. So soon as the nitrite volatilised, the action of the strychnine was redeveloped. In the case of tetanus in the human subject there is some similar condition. You may hold the spasms in abeyance by relaxants, but that is not enough. You want also to ensure elimination of morbid products, and the quicker the process of elimination, the sooner is the tetanic contraction permanently overcome. Oxygen, properly used, fulfils both indications, and that of elimination most perfectly.

I dare say that most of my hearers who have been accustomed to think of oxygen as a supporter of combustion, and of its often-proposed therapeutical value in asphyxia and in consumption, will be surprised to hear it put forward as a relaxant and eliminative remedy rather than in the old light in which it has been commonly considered. It is, however, quite correct to introduce it in this new light. Therapeutically, its primary value is derived from the two properties specially named. This is true in respect to its application in its pure form, as oxygen and nothing else. It is equally true in respect to it when it enters into combination with other elements to make new compounds.

Oxygen deserves, at the same time, to be considered in relation to its employment to meet asphyxia. Raised in temperature to summer heat, it may be used for artificial respiration, and has been so used. I do not find, however, from direct experiment, applied to the testing of this particular point, that oxygen alone has any very decided superiority over oxygen as it is mixed in the atmosphere with nitrogen. There is no obvious reason, when we come to think of the matter, why it should be any more useful. The quantity of oxygen contained in the air naturally is already more than sufficient for the demands of the animal economy. There is always a surplus of oxygen taken in by the lungs which, not being applied by absorption in the blood, is returned as oxygen in expiration. Why, then, add more oxygen, when there is more than enough in the air itself for all practical purposes?

This same observation applies with equal force to the application of oxygen in cases of phthisis pulmonalis. When oxygen was first discovered, it was held to be one of the most promising of remedies for that disease. It was very carefully and very efficiently tried, but was not found to be of any such efficient service as to earn for itself a fixed place in the list of remedies. Chaptal, who had the soul of a poet in him, as well as of a physician, said of it that it relieved the breathing, but that it strewed flowers to the grave. In a sense, the saying is true. I have found that it relieves spasmodic cough, but there its useful function ends. Where a portion of lung is out of work altogether, of what use is it to supply more oxygen, when in the air there is already a surplus? Nay, supposing that it were possible to make the blood carry more oxygen, what would be the benefit? A sharper oxidation would but quicken the hectic, increase the perspirations, and reduce the muscular power, all of which symptoms we wish to subdue in pulmonary consumption.

Affirmatively, we have, then, as yet, nothing more that is positively remedial in pure oxygen than its action as an antispasmodic and eliminative. Much yet remains to be learned in respect to its use under differing conditions, and many new and positive truths have to be acquired. Particularly important is it to ascertain what it will do—(*a*) under cold and pressure; (*b*) under heat and pressure; (*c*) as ozone under cold, and under cold and pressure; (*d*) as ozone under pressure at from 50° to 60° Fahr.

In order to arrive at the data for the determination of these questions, a special room would be required for experiment, in which the barometric pressure, the heat, the moisture, and the electrical conditions can all be regulated without any doubt or difficulty. In such a room the worst cases of disease, cases of tetanus and hydrophobia especially, might be treated on rational grounds, with a prospect of positive success, which has, up to this time, been quite unknown. In such a room, the combustion of the body could be modified at the will of the physician, just as easily as the furnace is regulated in the engine-room, and when once the positive reading of effects was discovered, the skill of the physician might be as exact as that of the engineer.

(To be continued.)

SMALL-POX IN DUBLIN.—Eleven deaths from small-pox were registered last week in Dublin, being an increase of nine over the preceding week; but the number of new cases (twenty-six) of this disease admitted during the week is somewhat less than in the previous week.

Correspondence.

"Audi alteram partem."

"BODY-SNATCHING."

To the Editor of THE LANCET.

SIR,—I should like to add a word or two supplementary to your article entitled "Body-Snatching." Having been the medical superintendent for some years to one of our parochial infirmaries, I cannot without the deepest regret recall the time when every obstacle was placed in my way by some members of my board to making post-mortem examinations, and upon one occasion I was denied assistance, and told that I might place the "*corpse*" on the table myself (which I did). I pocketed the insult, and was amply repaid from a scientific point of view by the result of my investigation. I would ask, Sir, can nothing be done to alter the present *régime* of these noble institutions now springing up in all directions in this great metropolis? I need scarcely say that the medical superintendents of these hospitals have fields hitherto unparalleled for clinical and pathological investigations, if untrammeled by petty and short-sighted government. Will the Local Government Board help us? No! And why? Because they are afraid to act from political motives. I have no doubt in time the guardians will be brought to see that these asylums are not workhouses, and that they can only be governed and utilised, for the benefit both of the pauper and the ratepayer, by giving to the medical officer supreme control. For my own part I have the greatest confidence in the good common-sense of these local governing bodies, but for the present in this direction they are *mis*directed.

Believe me, very truly yours,

THOMAS STRETCH DOWSE.

Old Burlington-street, Nov. 1878.

METROPOLITAN AMBULANCES FOR INFECTIOUS DISEASES.

To the Editor of THE LANCET.

SIR,—I observe in one of your leading Annotations last week some remarks on this subject, and the experience of the Port Sanitary Authority should, I think, assist in giving them weight. The sanitary district of the Port of London is surrounded by forty-six health authorities, to any or all of whom we are, it may be, at some time indebted for the use of an ambulance. All riparian authorities, through their administrative officer, are always most ready in giving us aid. But in many cases no ambulance exists; of course no ambulance can be lent, and we are sometimes sorely pressed as to what to do, wanting to remove, say, a small-pox patient to the nearest hospital without risking the safety of the shore population. I am sure that the Port Sanitary Authority would very gladly aid in the settlement of "a satisfactory ambulance system" that should be utilised for all classes of the community. The riparian districts abutting on the Thames between Teddington and Ramsgate include, of course, all varieties of port sanitary authorities, and it is lamentable to find how few out of the number above-mentioned have any proper ambulance for the removal of contagious cases.

I am, Sir, your obedient servant,

HARRY LEACH.

Albert Mansions, Victoria-street, S.W.,
November 16th, 1878.

"ENTERIC FEVER IN INDIA."

To the Editor of THE LANCET.

SIR,—Your journal of the 9th reached me last evening, and I cannot tell you how annoyed I felt on reading your review of Dr. Gordon's report—being one of the medical officers who served in the Madras Presidency during the time alluded to. As you "leave it to the officers whose accuracy is impugned to refute his conclusions," I shall attempt, without a day's delay, to do so. If I understand your critique aright, there are two points in the report I should like to notice, besides giving vent to righteous indignation.

First, he states that in the "Indian climatorial fevers of non-specific character," by which, of course, he means malarial, "similar intestinal lesions to those of typhoid have been frequently observed." It really is too ridiculous at the present day to be obliged to argue against such an assertion, but as our diagnostic powers have been so trampled on, I must point out to your readers his mistake. In vol. ii. of "Trousseau," p. 364, is stated, "dothinenteria may at first simulate intermittent fever, and intermittent fever may likewise at the beginning of the attack simulate dothinenteria." A case of this kind came under my notice in his presidency. I was handed over the charge of the case by a European major, who told me at the bedside the patient was suffering from country fever. A day or two after I informed him that I thought it was typhoid, and I gave my reasons. The case was isolated, and patient died on the 13th day from intestinal hæmorrhage. The post-mortem showed a most characteristic typhoid gut, which I took several hundred miles to Madras to show my colleagues. Now, does Dr. Gordon mean to say that this was a climatorial fever, with a gut lesion similar to enteric? If so, I leave your readers to judge between us. Again, I know that remittent fever is confounded with typhoid. For instance, I was called in consultation with two very senior men to see a son of a captain in the Madras staff corps. I was told by them that the boy was suffering from remittent fever. It was the fourteenth day of the disease; there was sordes on the lips and teeth, the tongue was dry and brown, the abdomen was large and tympanitic, there were spots, diarrhœa, and a stool shown me was most marked. However, when I mentioned typhoid they would not hear of it; one said the spots were caused by the flannel night-shirt, and the other symptoms were in like manner explained away. This is another example of the climatorial fevers.

Secondly, his view is that though 175 cases and 54 deaths occurred, there were only seven at all like typhoid, and consequently there must have been 168 errors in diagnosis. What monstrous assurance is implied in this. Does he imagine that those who treated the cases were nearly all incapable of distinguishing a tubercular from a typhoid ulcer, or a case of poisoning from the same disease. Besides, how can he explain the post-mortem reports? From a private case-book I have at my elbow, I could convince you and your readers of the absurdity. As I feel I have taken up too much of your space already, I will give but one case to show that we were not all fools who diagnosed those 175 cases. Recorded in 1874:—"A well-marked case of typhoid; highest temperature 105°, profusion of spots, deafness, subsultus, &c.; noted on account of the temperature being higher in the morning than in the evening on the fifteenth, sixteenth, seventeenth, and eighteenth days of disease. The man having died on the twentieth day, it may be that this is a most unfavourable symptom.—Post-mortem: Lower part of ileum studded with ulcers, and intestine of a peculiar slate colour." From what I have stated it may fairly be presumed that more typhoid occurs than what is actually shown in the returns, and, also, I think, it may be concluded that the post-mortem appearances in the 54 fatal cases must have been similar to the two I have cited; indeed, remembering the report of the post-mortem appearances we had to forward to Madras, which I think came into use in 1872, I can't understand one being so blinded by a theory as not to see in them the most positive proof of typhoid.

Yours, &c.,

November 10th, 1878. UNKNOWN.

DETACHMENT OF RETINA.

To the Editor of THE LANCET.

SIR,—In your issue of October 12th last there is a communication headed "New Operation for the Cure of Detachment of Retina," which mentions a case in which subretinal serous fluid was let out through a scleral incision with excellent result. The operation is, however, incorrectly described as new, having been practised by Sichel in 1859, and subsequently by many others.

As the improvement in this case is far in excess of any previously recorded, it would be of value to have some more

precise account of such conditions as *field*, *tension*, *refraction*, and *ophthalmoscopic appearances*, as well as to have the resulting vision expressed in terms of some accepted standard.

May I suggest that, as the result, and also the fact that the eye operated on showed less improvement than the other, may be taken as throwing some doubt on the accuracy of the diagnosis, it would be of value to have this confirmed by that of the "eminent oculist" who had previously seen the patient.

A case so recorded, and so progressing, will be worthy to be given to the world and to posterity in the pages of your journal.

I am, Sir, your obedient servant,
W. A. BRAILEY, M.D., Curator.

Royal London Ophthalmic Hospital Museum, Nov. 20th, 1878.

THE CYPRUS INVALIDS AT NETLEY.

(From our Special Correspondent.)

THE return of the First Lord of the Admiralty and the War Secretary on Monday last from their tour of inspection in the Mediterranean naturally recalls the attention of the public to the sanitary condition of Cyprus, and the circumstances that immediately followed the British occupation of that island. And it is desirable that this attention should not just yet be on the wane. The condition of the 71st Regt. at Matthiati, and of the four companies of the 42nd (Black Watch) encamped at Kyrenia, has been graphically described by our daily contemporaries: the former being much improved in health, but the latter still presenting a sick-roll amounting to very nearly 20 per cent. of strength. It was well that Mr. Smith and Colonel Stanley should see the actual condition of things; for, though the deaths in Cyprus have happily not been numerous, the measure of the mortality occasioned by an epidemic disease is no measure of the sickness or of the discomfort and misery that it brings in its train. A visit was paid to Netley to see the present condition of the invalids who, as reported last week, arrived there on the 9th inst. Of the total number then admitted into hospital, 122 were at the time of this visit classed as convalescent and 72 still under treatment. The Cyprus patients are not aggregated together at Netley, but are dispersed promiscuously through the general wards, so that a good opportunity existed to contrast their general aspect with that of patients who had been sent from other quarters of the globe, suffering from other diseases. And this fortuitous circumstance was so far instructive that, to a practised eye—i.e., to the eye of the really cosmopolitan medical officer—the detection of these Cyprus cases, at the instant of entering the ward, is by no means difficult, though the great majority of them were up and about. Sallow, pasty, and somewhat pinched faces; pearly conjunctivæ; very marked general anæmia, and local also, specially of mouth and gums; no great emaciation, but an expression suggestive of a long-continued want of something that had not been forthcoming, are the characteristic superficial symptoms, associated, as found on examination, with an enlarged spleen and sometimes an evidently congested liver. Such cases are familiar to those who have had experiences in the low-lying districts of India, Ceylon, and China, the West Coast of Africa, and some parts of the West Indies. Dr. de Chaumont and Dr. W. T. Martin, who kindly escorted me over the wards, as well as the officer who has immediate medical charge of these cases, all classify them as of the intensely malarious type, the acute symptoms (which have now, however, passed away) having been irregular attacks of ague, varying very much in severity as well as in frequency, followed by great prostration, and affected little by anything short of change of climate. It is convenient to begin, as it were, backwards, and quote the authorities at Netley, who call them "almost perfect examples of the kind of malarial fever and cachexy often seen in India. It yields at once to quinine when given in doses of from fifteen to thirty grains, but the splenic and hypertrophic cachexy resulting from past attacks renders the men unfit for duty for some considerable time." They (as, indeed, others at Netley who have seen service abroad also say) see "nothing strange in this Cyprus fever." That is, there appeared, when collecting notes as to the cases soon after arrival, nothing very differential, as compared with malarious cases met with in those parts of the world above mentioned.

Much having been said and written (more by innuendo than positively) as to scorbutic complications, a careful examination of these men in their *present* condition fails to find any symptoms of *positive* traces of scurvy; but no one really familiar with scurvy and the diseases—e.g., so-called West Coast fever—with which it is commonly associated will fail to notice that these Netley patients must have been, at all events, just on the borders of the disease, if they have not actually been the subjects of it. One man (a hospital sergeant and compounder of medicines) spoke most positively as to having had scurvy, the symptoms being (according to his own account) plainly manifest in his gums and legs. The evidence of all those questioned, given separately and independently, went to prove that fresh green food was very scarce—indeed, almost non-existent; that the meat (beef and mutton) was very bad, and, except to youths with hardy stomachs, almost uneatable, and entirely void of nutriment; and that lime-juice was not given out as a ration until sickness was regularly established among the troops. And it does not appear that, having regard to malarious risks, quinine was regularly given as a prophylactic. All these circumstances (we may call them facts) are, of course, suggestive of scurvy. But there is no desire to push the scurvy hypothesis too far, although, as Dr. Denis Macdonald remarked at the close of the visit, the borderland between a healthy and a partially scorbutic condition is very often overstepped in ordinary civilised life, at home as well as abroad. It must be repeated, however, that most of these men would at a glance be suspected of some scorbutic taint, which, of course, their previous history must naturally tend to confirm. And it must be remembered that four days were occupied in the passage between Cyprus and Malta, three days at the latter, and fourteen days between Malta and Netley, exclusive of nearly three days occupied at ports of call.

(To be continued.)

Obituary.

JAMES R. W. VOSE, M.D.

DR. VOSE, the son of a physician of good standing, was born in Liverpool, 1811. He was educated in the Grammar School at Exeter, where his father resided temporarily on account of his health. His professional knowledge was acquired in the schools of Guy's, Edinburgh, and Paris. While in Edinburgh he was President of the Royal Medical Society. Before settling in practice he visited the hospitals and schools of Vienna and Berlin, and thus completed a medical education unusually extended for those days. He became successively physician to the Bluecoat Hospital and the Royal Infirmary. For some years past he was a Justice of the Peace for the borough. Although he wrote but little and made few original observations, he succeeded in winning for himself the position he desired, and was almost by general consent regarded as the leading physician of the town. His literary culture was good, and he delighted greatly in an apt quotation from a standard author. As a physician he was remarkable for common sense and good judgment, and in the earlier part of his career made a considerable reputation by his successful treatment of fever cases, in which he administered wine and stimulants, contrary to the practice of his contemporaries in Liverpool. Possessed of ample means, remarkably courteous manners, and exceptionally good conversational powers, he attained a social position fully commensurate with his professional reputation. In the summer he met with a carriage accident, in which it is supposed some injury to the spine occurred, but no obvious symptoms were manifest except pain in the lumbar region, which was considered to be rheumatic. He was, however, suddenly attacked with paralytic symptoms, at first invading the lower extremities, but rapidly spreading upwards to the centres of respiration, &c. He died after six days' illness, fully conscious the whole time of the significance and the importance of the symptoms. He

was buried in Smithdon Cemetery, in the presence of so large a concourse of professional and lay friends as almost to give the funeral a semi-public character.

W. WITTMAN THOMPSON, M.R.C.S., L.S.A.

WE regret to announce the death of Mr. W. Wittman Thompson, surgeon, at Bognor, who died from cancer of the tonsil on the 27th of October. The disease showed itself before Christmas last, when he had the benefit of Sir James Paget's and Mr. Durham's advice.

He was the son of Mr. William Thompson, an old practitioner of Bognor, and grandson of Surgeon-General Thompson, who was present at Waterloo. Mr. Thompson qualified in 1856, after studying at St. Bartholomew's Hospital. He was a pupil of Mr. Holmes Coote, and during the following year was house-surgeon at the Lambeth General Lying-in Hospital. He was assistant-surgeon on H.M.S. *Renown* for three years, and in 1860 joined his father at Bognor, where he continued to practise until his illness and death.

The respect shown on the day of Mr. Thompson's funeral was very general, the shops being closed, and a large procession of the chief inhabitants of the town, including sixty of the tradespeople, followed the hearse to the village church of South Bersted. He is much regretted by the poor, to whom he had always been a sincere friend.

Dying at the early age of forty-three, Mr. Wittman Thompson has unfortunately left a widow and seven children but ill provided for, and it has been found necessary to enter his eldest son, aged nine, as a candidate for the coming election at the Royal Medical Benevolent College, to which institution Mr. Thompson and his father had been subscribers since 1855.

CHARLES LINGEN, M.D., F.R.C.S., J.P.

DR. LINGEN, who died on the 28th ult., graduated at Heidelberg, after examination, in August, 1836, and was made an Hon. Fellow of the Royal College of Surgeons of England in September, 1844. He had a wide and extensive reputation in his profession, and was much called in consultation by the practitioners of Hereford and the neighbouring towns. Dr. Lingen studied at University College, London.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the last meeting of the Council the following Member was elected a Fellow of the College:—

Colebrook, Henry, M.D., L.R.C.P. Edin., Bath; diploma of Membership dated March, 1827.

The following gentlemen passed the first part of the Professional Examination for the Fellowship of the College at meetings of the Board of Examiners on Tuesday and Wednesday last:—

George B. Stuart and William W. Cheyne, Edinburgh; William Lang, London Hospital; Arthur W. M. Robson, Leeds; Alfred Pain and William T. Crew, Guy's Hospital; Charles E. Thompson, Middlesex Hospital; Henry Nance and Gilbert H. Barling, St. Bartholomew's Hospital; Thomas H. Morse, Guy's Hospital; Audley C. Buller, Cambridge and St. Bartholomew's Hospital.

Of the 28 candidates examined on the above-mentioned days, 17 failed to satisfy the Board, and were referred for six months' further anatomical and physiological study.—For the final Fellowship examination, which commenced on the 21st, there are 16 candidates.

APOTHECARIES' HALL.—The following gentleman passed his examination in the Science and Practice of Medicine, and received a certificate to practise, on Nov. 14th:—

Patterson, John Nesbitt, Earles-town, Lancashire.

The following gentlemen on the same day passed the Primary Professional Examination:—

George Luck Galpin, Middlesex Hospital; Charles Fixott Wilkinson, St. Bartholomew's Hospital.

CHARLES G. LYSTER, F.R.C.S.I., has been appointed to the Commission of the Peace for the County Kilkenny.

MR. WALTER HULL, of Acton, has obtained the Entrance Scholarship of £40 at St. Thomas's Hospital Medical School.

MERCER'S HOSPITAL having recently appointed a resident surgeon, the example will shortly be followed by the authorities of St. Vincent's and the City of Dublin Hospitals.

THE mortality returns of London for the week ending November 16th, record 1665 deaths, including 16 from small-pox, 22 from measles, 64 from scarlet fever, 13 from diphtheria, 43 from whooping-cough, 37 from different forms of fever, 11 from diarrhœa, and 431 from diseases of the respiratory organs. The estimated annual death-rate was 24·3 per 1000 of population.

THE Newport (Isle of Wight) Town Council have received a letter from the Local Government Board pointing out that they are in error in alleging that the Adulteration of Food and Drugs Act is inoperative; and that it cannot be admitted as a plea for not appointing a public analyst. After the reading of the letter, instructions were given to the clerk to make inquiry as the terms of payment to such an officer elsewhere.

VACCINATION GRANTS.—The following gentlemen have received from the Local Government Board gratuities for the successful performance of vaccination in their respective districts:—Dr. T. J. Burroughs, Crondall, £7 1*s.* (third time); Dr. La Fargue, Godalming (third time).

PRESENTATION.—Mr. E. F. H. Burroughs has received from the inhabitants of Westonzoyland a flattering token of their appreciation of his professional skill and social worth on the occasion of his removal from the town. The testimonial consisted of an elegant silver teakettle and stand, bearing a suitable inscription.

DEATH REGISTRATION.—The Registrar-General for Ireland, in his report for the week ending 9th inst., draws attention to the fact that as regards nine out of twelve deaths registered in the South Dublin Union Workhouse, no information has been afforded as to the cause of death, the entry in each case being "unknown."

UNIVERSITY OF DUBLIN.—At a meeting of the Council held on the 13th inst., it was resolved that in future Institutes of Medicine (Physiology and Practical Histology) shall constitute part of the half M.B. examination; and that Institutes of Medicine (Pathology and Hygiene) shall form part of the final M.B. examination. This resolution will not come into force before the 30th June, 1879.

UNIVERSITY OF OXFORD.—The final examination for the degree of Bachelor of Medicine will commence in the medical depaotment of the museum on Monday, Dec. 2, at 10 A.M. The first examination for the same degree will commence at the same place on Monday, Dec. 16, at 10 A.M. The examination in Preventive Medicine and Public Health will commence in the sanitary laboratory of the museum on Monday, Dec. 9, at 10 A.M.

BEQUESTS ETC. TO MEDICAL CHARITIES.—The Misses K. and E. Charrington have given a second £500 to the London Hospital Maintenance Fund. The Royal Hospital for Incurables, the Earlswood Asylum for Idiots, and the Kendal Hospital, have become entitled to £200 each under the will of Mr. Thomas Armstrong, of Fairlight Hall, Ore, Sussex.

BOOKS ETC. RECEIVED.

Dr. H. Von Ziemssen: Cyclopædia of the Practice of Medicine. Vol. VIII.
Dr. J. H. Bennet on Pulmonary Consumption.
Rev. J. H. Timins on Artificial Disinfection as a Means of Preventing the Spread of Infectious Disease.
Annotated Poems of English Authors.
J. Hullah: How can a Sound Knowledge of Music be best and most generally Disseminated?
C. J. Wood: A Handbook of Nursing.
Mrs. W. T. Greenup: Food and its Preparation.
A Physician: The Diseases of Women.
Dr. E. H. Greenhow on Bronchitis.
The House-Surgeon; or, the Doctor at Home.
T. B. Curling on Diseases of the Testis.
Dr. Sellerbeck: Ueber Keratoplastik.
T. Holmes: Surgery, its Principles and Practice.
C. Gegenbaur: Elements of Comparative Anatomy.
R. Seyd: Thirty-one Years' Ministerial Policy, as set forth at Lord Mayor's Day Banquets from 1848 to 1878.

Medical Appointments.

ASHMEAD, G., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer of Health for the Brierley-hill Urban Sanitary District, Staffordshire, at £30 per annum, vice Ellis, resigned.

BARNES, Mr. J. J. F., has been appointed Resident Obstetric Assistant to the Westminster Hospital.

BARR, J., M.B., L.R.C.S.Ed., has been appointed Physician to the Stanley Hospital, Liverpool.

BRADSHAW, J. D., M.B., B.A., has been elected Pathological Registrar to the Manchester Royal Infirmary, vice Ross, elected Assistant-Physician.

BURRELL, R., M.D., M.R.C.P.L., has been appointed a Physician to the Royal Infirmary for Children and Women, Waterloo-bridge-road, vice Sturge, resigned.

BURTON, S. H., M.B., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the Norfolk and Norwich Hospital, vice C. Firth, M.B., M.R.C.S.E., resigned.

CHATTERTON, W., M.D., M.B., C.M., has been appointed Medical Officer for the whole Hayfield Union and Workhouse, Derbyshire, vice Grindrod, resigned.

CLEGG, W., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Boston Port Sanitary District until the 29th Sept., 1879.

CLUTTON, H. H., F.R.C.S.E., has been appointed an Assistant-Surgeon to St. Thomas's Hospital, vice Mason, promoted to be Surgeon.

COLLINS, G. D., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the Salop Infirmary, Shrewsbury, vice Wilding, resigned.

CUNDELL, G. R., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Royal Gardens, Kew, vice Davis, deceased.

CURDE, C., L.S.A., has been appointed Resident Obstetrical Officer to the Charing-cross Hospital, vice Garrett.

DOYLE, C. W., M.B., C.M., has been appointed a Medical Officer to the Norfolk and Norwich Dispensary, at £60 per annum for attendance on Free Patients, and Fees according to Rule for attendance on Provident Members.

FARR, F. A., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Houghton Regis District of the Luton Union for six months, vice F. Farr, M.R.C.S.E., deceased.

FIRTH, C., M.B., F.R.C.S.E., has been appointed Medical Officer to the Norwich Post-office, vice G. W. W. Firth, F.R.C.S.E., deceased.

GARRETT, H. E., M.R.C.S.E., has been appointed Resident Surgical Officer to the Charing-cross Hospital, vice Leahy.

GRANT, Dr. D., has been appointed Resident Medical Officer to the National Hospital for Consumption, Ventnor, vice Fraser, resigned.

HARDIN, W., F.R.C.S.Ed., L.K.Q.C.P.I., has been appointed Medical Officer for the No. 5 District of the Sevenoaks Union, vice Symons, resigned.

HAWKINS, J. S., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Hollymount Dispensary District of the Ballinrobe Union, co. Mayo, at £100 per annum and fees, and £25 per annum as Medical Officer of Health, vice Barron, resigned.

HILL, T. W., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed a Surgeon to the Chelsea, Brompton, and Belgrave Dispensary, vice Leonard, resigned.

HOLLIS, W. P., L.R.C.P.Ed., M.R.C.S.E., & L.M., has been appointed Medical Officer for the Clerkenwell District of the Holborn Union, vice Dyer, resigned.

HUNTER, W., M.B., C.M., has been appointed a Medical Officer of Health for Mearns, Renfrewshire.

JAMES, Mr. H. E. R., has been appointed Assistant Surgical Officer to the Charing-cross Hospital, vice Pattison.

JONES, I. S., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for No. 5 District and the Workhouse of the Maidstone Union, vice Owens, resigned.

LLOYD, J. F., M.B., C.M., L.R.C.S.Ed., has been appointed Assistant-Surgeon to the Cape Copper Mining Company, vice Pirrie, promoted.

MACAULAY, T., M.R.C.S.E. & L.M., L.S.A.L., has been appointed Medical Officer for No. 6 District of the Market Harborough Union, vice Crane, resigned.

MACFARLANE, W. D., L.R.C.P.Ed., L.F.P.S.G., has been appointed a Medical Officer of Health for Mearns, Renfrewshire.

MACPHAIL, S. R., M.D., has been appointed Resident Assistant to the Wolverhampton and Staffordshire General Hospital.

MILLERCHIP, T., L.R.C.P.Ed., L.F.P.S.G., has been appointed Medical Officer for No. 2 District of the Coventry Union, vice Shorter, resigned.

MILROY, A., F.F.P.S.G., L.R.C.P.Ed., has been appointed Certifying Surgeon for Kilwinning, Ayrshire, vice Andrews, deceased.

MURRAY, Mr. H. C., has been appointed Assistant Medical Officer to the Charing-cross Hospital, vice Rowbotham.

NAPIER, A. D. L., M.D., C.M., has been appointed Medical Officer and Public Vaccinator for the Parish of Spott, Haddingtonshire, vice Dunlop, deceased.

RAYNER, T. V., M.R.C.S.E., has been appointed Certifying Factory Surgeon for Stockport, vice Downs, resigned.

ROBINSON, H. S., M.R.C.S.E., L.S.A.L., has been appointed an Assistant-Surgeon to the Norfolk and Norwich Hospital, vice Williams, resigned.

ROWBOTHAM, H. C., M.R.C.S.E., has been appointed Resident Medical Officer to the Charing-cross Hospital, vice Wickers.

SHIRLEY, M., L.R.C.P.Ed., L.F.P.S.G., has been appointed Medical Officer to the Hunslet Union Workhouse, vice Nicholson, resigned.

SKRIMSHIRE, J. T., M.D., M.R.C.S.E., has been appointed Medical Officer of Health for the Erpingham Rural Sanitary District, Norfolk, at £80 per annum.

TAYLOR, S. T., M.B., has been appointed a Medical Officer to the Norfolk and Norwich Dispensary, at £60 per annum for attendance on Free Patients, and Fees according to Rule for attendance on Provident Members.

TORRANCE, R., L.R.C.S.Ed. &c., has been appointed an Honorary Medical Officer to the Throat and Ear Hospital, Newcastle-upon-Tyne.

TORROP, J. S., M.D., C.M., has been appointed Certifying Factory Surgeon for Heywood, vice Leach, resigned.

WALLACE, J., M.D., has been appointed Obstetric Physician to the Royal Infirmary, Liverpool, vice Steele, deceased.

WARRILOW, E. S., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the West London Hospital, Hammersmith, vice Garson, resigned.

WILLIAMS, C., F.R.C.S.Ed., M.R.C.S.E., L.S.A.L., has been appointed a Surgeon to the Norfolk and Norwich Hospital, vice G. W. W. Firth, F.R.C.S.E., deceased.

WILLIAMS, J., F.R.C.S., has been appointed Medical Officer of Health for the Brentford Urban Sanitary District.

Births, Marriages, and Deaths.

BIRTHS.

BELLAMY.—On the 29th inst., at Wimpole-street, the wife of E. Bellamy, F.R.C.S., of a daughter.

CARLETON.—On the 11th inst., at Dalvin, co. Westmeath, the wife of William Carleton, M.B., of a son.

CLOUSTON.—On the 7th inst., at Hay, Brecknockshire, the wife of Charles S. Clouston, M.B., of a son.

ETHERIDGE.—On the 13th inst., at Seasalter, Whitstable, the wife of Charles Etheridge, M.R.C.S.E., of a son.

FRANKLIN.—On the 14th inst., at Leicester, the wife of George Cooper Franklin, F.R.C.S.E., of a daughter.

ILES.—On the 19th inst., at Watford, the wife of Wilson Iles, M.D., of a son.

LYDALL.—On the 15th inst., at Mecklenburgh-square, the wife of W. H. Lydall, L.R.C.P.Ed., of a daughter.

RABAGLIATI.—On the 14th inst., at Bradford, Yorkshire, the wife of Andrea C. F. Rabagliati, M.D., of a son.

MARRIAGES.

MCKERROW—HIGHET.—On the 14th inst., at Williamfield, Ayr, George McKerrow, M.B., to Jessie Cochrane, daughter of David Highet, Esq.

SIMPSON—WILSON.—On the 16th inst., at St. John's Church, Ealing, by the Vicar of Ealing, James Herbert Simpson, M.D., of Rugby, son of the late J. H. Simpson, M.D., of Pontefract, to Charlotte Maria, youngest daughter of the late Henry Wilson, Esq., of Clapham-park, S.W.

DEATHS.

ASHBURNER.—On the 13th inst., at Cambridge-terrace, John Ashburner, M.D.

AXFORD.—On the 13th inst., at St. Leonard's-on-Sea, Charles John Axford, M.R.C.S.E., aged 87.

BATCHELOUR.—On the 13th inst., at Jeffreys-road, William Batchelour, M.R.C.S.E.

BUTTON.—On the 11th inst., at Great Yarmouth, Arthur Michael Button, M.R.C.S.E., of Edgbaston, aged 51.

DAVIES.—On the 7th inst., at Stapleton-road, Bristol, Thomas Henry Whitehouse Davies, M.R.C.S.E., aged 36.

FAGAN.—On the 6th inst., at Oakwood, Duppas-hill, Croydon, Christopher Ramsay Fagan, M.D., aged 25.

HORTON.—On the 13th inst., George Edward Horton, L.F.P.S.G., of Edgbaston and Dudley, aged 59.

LECKIE.—On the 18th inst., at Southwick-street, Hyde-park, Thomas Leckie, M.D., Surgeon-Major, Indian Army, retired list, aged 71.

LESLIE.—On the 13th inst., at Walpole-road, Brighton, Percy Leslie, M.D., aged 43.

MACKINTOSH.—On the 8th inst., at Caistor, North Lincolnshire, John Innes Mackintosh, M.D., M.A., L.R.C.P.Ed., Medical Officer of Health, Caistor Rural Sanitary Authority, Medical Officer for No. 1 District, Caistor Union and Workhouse, aged 58.

MATHEWSON.—On the 9th inst., at Sands, Kincardine-on-Forth, Robert Robertson Mathewson, L.R.C.S.Ed., of Belvedere, Kent, aged 44.

MINCHIN.—On the 14th inst., at Lower Dominick-street, Dublin, Robert William Minchin, L.R.C.S.I., aged 25.

PARSONS.—On the 13th inst., at Walsgrave, Charles Henry Parsons, M.R.C.S., L.S.A.L. (late of Shilton), sincerely regretted by a large circle. (Australian papers, please copy.)

RIGBY.—On the 13th inst., at Brown-Hills, Stretton, Salop, James Morris Rigby, L.R.C.P.L., aged 40.

WILSON.—On the 17th inst., at Falkirk, John Wilson, L.R.C.S.Ed., Surgeon R.N., aged 86.

[N.B.—*A fee of 1s. is charged for the insertion of Notices of Births, Marriages and Deaths.*]

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

REPORT *by the President and Vice-Presidents on the Memorial, recently referred to them, which asks for a Meeting of Fellows.*

The memorial which the Council on the 17th ultimo received from certain Fellows of the College, and referred to the President and Vice-Presidents for consideration and report, adverts to a printed address which Mr. Quain some months ago circulated generally among the Fellows, advocating that the Fellows should once a year meet for the discussion of matters of professional interest, and should, between such meeting-times, be represented for certain professional purposes by a standing committee of their number; and the request of the memorialists is, that the Council should now convene within the College a general meeting of Fellows for the purpose of considering Mr. Quain's suggestions, and of taking such action on them as may be deemed desirable.

The President and Vice-Presidents have read Mr. Quain's address with the consideration which they think eminently due to it, both as regards its subject-matter, and as regards the professional rank and character of its author; they presume that all their fellow-councillors have done the same, and they daresay that among those readers, personally considered, many, perhaps all, may so far sympathise with the general sentiment of address as to wish they could see their way to take part in giving effect to it. The President and Vice-Presidents, however, are not prepared to say that, in their opinion, the Council (as such) could properly take the formal step which the memorialists desire, to have Mr. Quain's suggestions discussed in a public meeting of Fellows to be held within the College; and they think it the more necessary to submit to the Council the doubts which they entertain on this point, as they foresee that the requested action, if taken, might seem to say that the Council would, if requested, be ready to take further official action in the matter of Mr. Quain's suggestions.

The President and Vice-Presidents do not find in the College records any precedent for such a meeting of Fellows as is now proposed. No College meetings (other than for lectures and orations and elections) have, it is believed, ever been convened by the President or Council, except the three, not exclusively of Fellows, but generally of all Members of the Corporation, which were convened in the earlier half of the year 1870; and though the President and Vice-Presidents would think it foreign to their present business to discuss those meetings in detail, yet, remembering that as individual members of Council in 1869 and 1870 they were warmly for the principle of the meetings, they now feel bound, in quoting the precedent, to record also their personal admission that the experience of those meetings made them aware of practical difficulties which they had perhaps hardly enough foreseen in the matter, and that, in their opinion, much consideration would be requisite before the President or Council could again incur the responsibility which the convening of such general meetings involves. Though the College records do not give any precedent for such a meeting of Fellows as is now proposed, the Council minutes of the period to which the reference has been made record a distinct vote of the Council on the question, whether it would be well for the College formally to convene annual meetings of Fellows. It appears, namely, that on February 10th, 1870, Mr. Quain moved in the Council "that it is expedient that the Council convene a meeting of the Fellows annually on the day appointed for the election of members of the Council, for the purpose of discussing such subjects as shall be notified in the paper summoning the meeting"; and that on the following May 13th (the matter having in the meantime been referred to a Committee which was considering the whole subject of College meetings) a negative to Mr. Quain's motion was moved; whereupon the Council, accepting this negative, voted "that it is not expedient that the Council should convene a meeting of Fellows on the day of election of members of Council."

The positive law with regard to College meetings is understood by the President and Vice-Presidents to permit that either the President or the Council may, if seeing fit, convene the Members of the College for any business which concerns the Corporation in general, or convene exclusively the Fellows of the College for any business which is exclusively theirs; but the fact being, that the Members at large have in law no corporate responsibilities assigned to them, nor the Fellows any exclusive responsibility beyond that of their electoral function, the framers of the College Bye-laws seem not to have contemplated any holding of meetings within the College except for lectures and orations, and, in the case of Fellows, for the election of members of Council; and apparently no meeting can be held within the College except under the conditions which govern those cases. That is to say, first, the meeting must have been convened by the President or Council; and, secondly, the President or Council convening it must have defined the particular business or matter in respect of which it is convened; and, thirdly, the President or one of the Vice-Presidents, or some other member of the Council, must preside at the meeting, and act in control and direction of it; and, fourthly, unless the business of the meeting be by right exclusively for Fellows, the meeting must have been convened without distinction of class, and must be open indifferently to all Members of the Corporation.

The President and Vice-Presidents, on their above-stated understanding of the law, doubt whether the Council could in strict lawfulness convene a meeting of Fellows to consider the suggestions of Mr. Quain's address; for the summons to any such meeting would, it seems, have to imply that the suggestions concern the Fellows in their functional relations to the College; whereas, as Mr. Quain himself very pointedly explains, his "proposal is wholly independent of the Charter and of the duties imposed by it on the Council and on the Fellows," and his "subject is not within the province of the Council."

Further, and quite apart from any narrowly legal view of the case, the President and Vice-Presidents are of opinion that, if the Fellows of the College should wish, as Mr. Quain suggests, to graft on their present legal status a certain social organisation for purposes not within purview of the Charter and Bye-laws of the College, it would be inexpedient as regards the College, and probably at the same time inconvenient to the Fellows themselves, that the voluntary organisation should in any formal way be identified with the official machinery of the College. The forms and sanctions, under which College meetings have of necessity to be held, could not, without embarrassment to both parties, be extended to meetings which would be of unofficial and ultra-legal intention. Meetings of the latter sort may rightly be of far larger scope than meetings which are within rule of special Charters, and needless endeavours to make them move in the same lines may breed discord instead of harmony. To Fellows who might wish to meet for the wider purposes, it would probably be a disappointment to find that, if they were assembled within the walls of the College, they could not, in the present state of the law, enjoy the same freedom of discussion and conduct as in meetings held elsewhere at their own discretion. And to the College at large any ultra-legal meeting of Fellows within its walls would bring with it this serious inconvenience, that, though the meeting could not in fact give legal validity to its proceedings, yet, since under the Bye-laws it must be presided over by the Executive of the College, it could hardly seem so unofficial and unauthoritative as not to give to the College government at least an appearance of duality.

In a different point of view, if allusion may be permitted to a fact which is not formally within cognisance of the Council, the President and Vice-Presidents would appeal to the knowledge which every member of the Council informally has of the annual dinner which, ever since the institution of the Fellowship, the Fellows of the College have, by voluntary agreement and organisation among themselves, arranged for the day in July when elections to the Council take place; for it seems to the President and Vice-Presidents that, if there be much demand among the Fellows for such an annual debate-meeting as Mr. Quain suggests, probably the unofficial organisation under which the festive meeting is held would be ready and able to subserve the two purposes at the one opportunity; so that, on the same day with the dinner, and on an equally unofficial basis, there might be an afternoon meeting of Fellows for such general and free debate as the College could not at present formally invite.

Mr. Quain's address does not itself anywhere state whether the annual meetings which he proposes are meant by him to be held within the College, and consequently to be convened and presided over by the College Executive; but this question could not fail to be raised in any preliminary meeting of Fellows which should be held with intention of giving effect to his suggestions; and if the views of the Council as to the answer which any such question ought at present to receive are substantially those which the President and Vice-Presidents have here expressed, it would hardly be appropriate, and might probably cause misapprehension, if the convening of Fellows "for the purpose of considering Mr. Quain's suggestions" were an authoritative act of the Council.

Accordingly, as regards the memorial to which the present memorandum refers, the President and Vice-Presidents recommend to the Council to say to the memorialists that, not as implying any opinion on the merits of the matter in question, but from considerations which relate to the Charter and Bye-laws of the College, the Council does not feel itself at liberty to convene a meeting of Fellows to discuss the suggestions to which the memorial refers.

November 5th, 1878. EDWARD TRIMMER, Secretary.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL OFFICERS OF HEALTH AND THE LOCAL GOVERNMENT BOARD.

AT the last monthly meeting of the Morpeth Local Board of Health, the salary of the medical officer of health was discussed, with special reference to the relations existing between the Central Health Authority and local sanitary authorities and their medical officers of health. It appears that the Local Government Board has made repeated but ineffectual applications to the urban sanitary authority of Morpeth for annual returns of mortality statistics. The local medical officer of health has hitherto objected to furnish these returns on the ground that his annual salary, only £25, was insufficient to enable him to furnish these returns. At the recent meeting of the local board, a proposition was made to raise the salary to £40, and to apply to the Local Government Board for the repayment of half this amount. The dread of centralisation, however, appears to have been so strong among the members that the proposal of the chairman to preserve their independence, and to increase the salary of the medical officer from £25 to £30, without asking the Local Government Board for assistance, was, after some discussion, carried almost unanimously. It is instructive to see the value that the Morpeth Local Board puts upon scientific sanitary supervision, and it will be interesting to know whether the Local Government Board will now get their annual mortality statistics.

Ferri.—No one who is not a graduate of a University, and does not hold the degree of doctor, is legally entitled to call himself "doctor."

Mr. Lee.—All letters sent for insertion are necessarily authenticated by the names of the writers, but we cannot communicate these particulars.

BROMIDE AND IODIDE RASH.

To the Editor of THE LANCET.

SIR,—In the report of a remark made by me at the last meeting of the Medico-Chirurgical Society on bromide and iodide rash there is a slight error, due, no doubt, to my clumsiness of expression. Probably in the majority of cases the rash subsides after the discontinuance of the drug, and this, along with the reappearance when the drug has been again employed, has been the test, as Mr. Hutchinson has pointed out, as to the cause of the lesions. What I meant to say was, that in at least five cases I had seen *fresh* skin lesions appear after the use of the drug had been stopped, pointing probably to the retarded elimination of these salts. Dr. Thin's case, in which the rash appeared for the *first* time after the use of the drug had been stopped, is, I believe, exceptional.

Yours faithfully,

London, Nov. 15th, 1878. THOMAS BARLOW.

REMOVAL OF A NASO-PHARYNGEAL POLYPUS BY THE TEMPORARY DEPRESSION OF THE UPPER JAW.

IN the Transactions of the Medical and Surgical Faculty of the State of Maryland, 1878, will be found a description of this operation by Dr. Tiffany. The patient, a mulatto, first entered hospital with a polypus growing from the base of the skull, occluding the right nostril. The growth was removed by a wire passed round the base, but returned again in four months. It filled the posterior naso-pharyngeal space, and was attached to the internal plate of the right pterygoid process, its internal and posterior aspect, and to the adjacent basilar process. As the tumour was large, it was decided to depress the two upper maxillary bones, and to perform "a provisional tracheotomy." While the patient was being etherised, the tumour sank down, closing the opening of the trachea. Raising the tumour caused it to bleed, and, asphyxia being feared, the patient was "stood" upon his head while the trachea was rapidly opened, liberating about an ounce of blood. A tube was then inserted, and further interference postponed. Six days later the operation was resumed. To prevent the entrance of blood into the air-passages, a piece of sponge attached to a little silk was passed into the opening of the larynx. An incision was carried down on either side of the nose, then around the alæ and through the middle line of the upper lip into the mouth. The cheeks were next freely dissected from the upper jaw as high as the nasal bones, infra-orbital foramina, and malar bones. A fine saw was then made to cut the jaw from the malar process into the middle meatus of the nose, passing just beneath the infra-orbital foramen, upwards and inwards. The posterior wall of the upper jaw was not divided. The septum and the vomer were cut with strong scissors. The upper jaw was strongly depressed and sunk down, hinging upon the pterygoid processes. The tumour was well exposed, and the pedicle divided by the cautery. Bleeding points were cauterised, and chloride of zinc in crystals applied to the bone from which the tumour grew. The jaw was replaced, and held in position by a loop of wire passed through the cheeks near the outer angles of the orbits, and joined above the forehead by a rubber band. A celluloid plate was then adapted to the teeth of the upper jaw, and grooved so as to hold the wire securely. Finally, the cheek flaps were united to each other and to the nose by sutures, and the sponge was withdrawn from the larynx. The tumour was between three and four inches long, pear-shaped, and six inches in circumference, half an inch from the lower end.

Mr. T. H. Tidswell is thanked. We shall give the name of the specimen next week.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—Now that a new Warrant is expected for the Army Medical Department, various appeals of various sorts and from various sources are being made to the medical officers, calling on them to record their opinions in favour or otherwise of the station hospital system.

The military authorities are strongly in favour of the regimental system; but a large and influential portion of the department are as strongly in favour of the unification scheme. The sooner the matter is definitely settled the better; for contending forces pulling in different directions are not calculated to conduce to the welfare of our army. The hands of the Director-General have too long been tied by the Horse Guards, and he has never been able to use his administrative ability to the best advantage either for the public service or for his own department. The time has come when the medical officers of the army should be true to their chief and true to their own best interests. The Horse Guards and colonels of regiments want still to hold the control over medical matters and medical officers, and hence their anxiety for the restoration of the regimental system. How, may I ask, did they prove their appreciation of us when we were regimental officers? The most highly favoured were simply suffered amongst them, and the last joined sub-lieutenant or ensign in those days, taking the cue from his seniors, was soon encouraged to think it a fine thing to try and snub "our doctor," a man of perhaps double his age.

Your readers will also remember the article in *Vanity Fair* on the department, written by a military man. It cannot, therefore, be from any love for us they want us back among their ranks. I would urge the junior members of the department to consider this. I appeal to their pride as gentlemen and professional men, and I would ask them to weigh the matter well before they give in their adherence to the regimental system.

The social privileges which the junior members of the department are now comparatively cut off from are a very doubtful advantage to men who have to earn their bread, if indeed they can be said to be an advantage even to the idler, and they will not miss them in a few years. The department will by that time have provided for them better means of social intercourse. It will have attained the position, force, and dignity of an independent section of Her Majesty's forces, and the very fact of men having less opportunities of becoming soldiers and more of being good professional men will add to their credit as a scientific body, and to their value as servants of the State. Yours truly,

November, 1878. UNIFICATION.

General Practitioner.—It is not necessary for a medical practitioner to register in order to perform acts of dental surgery. If he has been in the habit of performing such acts, he is entitled to be registered in the Dentists' Register, on payment of a fee not exceeding two pounds, if he applies to the Registrar of the General Medical Council for registration before the first day of January, 1879.

Mr. John J. Skrimshire.—We approve of audits being real, and this can only be in the way described by our correspondent.

SCHOOLS AS MEDIA OF INFECTION.

DR. HENRY J. YELD, the medical officer of health for Sunderland, has at the request of the Health Committee, issued "Recommendations to proprietors of schools, school managers, and teachers, with reference to the hygiene of schools and of scholars. Amongst other precautions, he suggests that children should not be allowed to attend school from a house in which infectious diseases are known to exist, as, although not ill themselves, they are very likely to carry infection to others, and spread disease. He recommends that it be required of parents to give notice of infectious diseases in their houses, and that, on receipt of such notice, the master or mistress should inform the medical officer of health. Such measures are desirable; but it is vain to expect them to be realised if legislation will not compel them.

M.D.—B.'s conduct requires justification: first, in seeing the patient before the arrival of A.; and secondly, in agreeing to take a case to which he had been introduced as a consultant by A. We do not say that such a course might not under extreme circumstances be justified; but it needs defence.

F. H.—We cannot name the appropriate premium for two years' pupillage. This must always be a matter of arrangement with the principal.

Mr. James Hovison.—The cases referred to have not come to hand.

TREATMENT OF ANASARCA.

To the Editor of THE LANCET.

SIR,—I hope the particulars of the following case, in which I used Southey's trocar and cannula for severe anasarca, with very great benefit, may be of sufficient interest for insertion in THE LANCET.

M. A. K——, aged fifteen, labourer's daughter. She suffered from mitral disease, which was probably rheumatic.

Sept. 3rd, 1878.—The feet have commenced to swell; the breathing is difficult; she has a short, troublesome cough.

10th.—The patient is now compelled to sit up in a chair night and day, passing very little urine; breathing very difficult; complains of severe burning pain in both legs; œdema spread half way up the thighs. After some little persuasion I was allowed to introduce one of Southey's cannulæ into the outer side of the right leg, about three inches below the external malleolus. The trocar was inserted much in the same way as a hypodermic syringe. I had no trouble in passing the end of the fine tubing over the mouth of the cannula. I then tied the middle of a fine piece of silk round the tubing and the cannula. The ends of the silk were laid on the leg, and secured by pieces of strapping. By this plan the cannula was kept firmly in position. The pain of introduction was very slight. Fluid commenced running at once, a basin being placed to receive it.

11th.—About three-fourths of a pint of fluid has run away; breathing still very difficult. The friends will not allow a tube to be introduced into the opposite leg. No pain from the tube.

12th.—Three-fourths of a pint of fluid passed since yesterday; the breathing is decidedly improved; the leg is much decreased in size, and is very free from pain. The left leg was very painful during the night. She is now very anxious to have a tube in the opposite leg. Tube inserted as in the right leg; appetite improved.

13th.—Passed a restless night, but is now much easier. Left leg quite free from pain, and much decreased in size. Four pints of fluid passed. The breathing is easier, but the pulse is increased in rapidity, and there is greater weakness. The tubes to be tied with pieces of tape, and untied for two hours three times a day.

14th.—Half a pint of fluid passed; quite free from pain, but the cough is troublesome.

15th.—Nearly a pint of fluid during the last twenty-four hours. Tubes now to be opened for four hours in the day.

16th.—A pint of fluid passed.

17th.—Same quantity of fluid as during the last two days. Patient evidently sinking, but is quite free from pain.

18th.—Died this morning. After removing the tubes it was with difficulty that the site of insertion could be seen. The patient was a very intelligent girl, and before her death she expressed to me her thankfulness for the great relief she had obtained from the use of the tubes.

Your obedient servant,

ALFRED KEBBELL, M.R.C.S. Eng.

Flaxton, York, Nov. 14th, 1878.

Nemo.—The conditions under which the name of a medical practitioner is to be erased from the Register, and will be struck off the roll of his College, are set out in the Medical Act, and in the regulations of the several licensing corporations respectively. The information required can be obtained on application to the Registrar of the Medical Council.

Surgeon.—The practice of coroners is generally unsatisfactory. We can only hope the whole subject will be discussed in Parliament next session.

INFECTIOUS DISEASE HOSPITALS: FEES.

To the Editor of THE LANCET.

SIR,—In reply to your correspondent, "J. B. R.," I have much pleasure in stating that the Alcester Rural Sanitary Authority pay the medical officers in attendance on persons in their infectious disease hospital the ordinary professional charges for private patients, and "each account" is kept separate and distinct. Yours truly,

G. H. FOSBROKE,

Bidford, Nov. 19th, 1878. Medical Officer of Health.

Surgeon-Major.—Thanks for our correspondent's communication; but it is rather too long, and most of the points in it have been already pretty well discussed.

Mr. Robt. Bell.—The instrument has not been received.

THE METROPOLITAN AND NATIONAL NURSING ASSOCIATION.

To the Editor of THE LANCET.

SIR,—I notice among your annotations one relating to village nurses. The subject is one of such vital importance to us as medical men, especially those among us whose work lies among the poor, that there are few who will not join you in your wishes for the success of any scheme that will place the incalculable benefits of trained nursing within our reach. But, Sir, it occurs to me that neither yourself nor the promoters of the scheme you allude to are aware of the existence of an institution formed for the very purpose you mention.

The Metropolitan and National Nursing Association, of which the Duke of Westminster is Chairman, has within the last three years established three houses in three of the most thickly populated parts of London, working under the very conditions you mention, and with the same objects in view. They have already made themselves simply invaluable to those among us whose good fortune brings us within the range of their efforts. In my own practice I do not know what I should do if I had to go back to the old days, with their neglect of hygiene, miserable poulticing, and prevalent bed-sores, and I can only wonder that further efforts are not made to place a branch of this institution within the range of every medical man in London.

Your annotation, Sir, refers to village nurses, and, as the name of this institution implies, it was established with the idea of supplying villages and country towns, as well as London, with trained nurses. But it is very young; it has already done great things, and has undoubtedly a still greater future before it. Knowing something of its management, I would strongly recommend any interested in the welfare of the poor, and anxious to see them properly nursed in their days of illness, to place themselves in communication with the Secretary of the Metropolitan and National Nursing Association, 23, Bloomsbury-square, W.C.

In conclusion, Sir, I would mention that the nurses employed are educated women, who have received a year's hospital training, and are possessed of the necessary tact and intelligence for introducing hygienic measures into the homes of the poor.

Your obedient servant,

Hornsey-road, November, 1878. STEPHEN M. CAFFYN.

IMPERMEABLE INDIA-RUBBER FILM GLOVES.

WE have received a pair of Forster's patent impermeable india-rubber film gloves for the use of "surgeons, chemists, photographers, and other manipulators of chemicals." The gloves are well made, and for purposes of post-mortem examination &c. are likely to meet with the approval of the profession. The manufacturers are P. B. Cow, Hill, and Co., Cheapside, London.

G. M. D.—We cannot agree with our correspondent as to the propriety of retaining thirty-two as the minimum age of admission to the Army Medical Department. Unless a man is a failure in civil life, he is not likely to take to the army at that age.

Mr. John W. Kennedy.—The new-comer should call on his professional brethren only.

A. B. J.—Letters addressed to initials at the post-office are not taken in, but are at once sent back to the writers.

Mr. John Glaister.—Soon.

THE LATE MR. PHELPS.

To the Editor of THE LANCET.

SIR,—Having seen a notice of Dr. De la Cour's letter, giving an account of the late Mr. Samuel Phelps's last illness, in your impression of last week, I think it only right to mention that Mr. Joseph Clegg, of Epping, attended Mr. Phelps throughout his last illness, and not, as might be inferred, Dr. De la Cour.

Sir W. Jenner met Mr. Clegg in consultation, and Dr. De la Cour was present, as he had attended Mr. Phelps in his previous illness.

It may be interesting to your readers to know that Mr. Phelps was suffering from no organic disease, but simply a worn-out nervous system, due to over-exertion of his mental faculties, and the wear and tear of his profession.

It is quite incorrect to say that Mr. Phelps was unconscious for a fortnight before his death, as he was able to recognise and to converse with those around him. His last illness was entirely brought on through mental exertion, and having to appear in public while in a weakened and nervous state; and it may be a warning to medical men not to allow professional men to resume duties requiring such severe mental strain while suffering, as Mr. Phelps was, during his last appearance on the stage.

I may state that I saw Mr. Phelps on several occasions during the last fortnight of his life, and was present at the consultation, and can vouch for the truth of this statement.—I am, Sir, your obedient servant,

Epping, Nov. 20th, 1878. ARTHUR W. GALLOWAY, M.R.C.S., &c.

W. G. — "Qualified" means in possession of a diploma or diplomas entitling the holder to be registered under the Medical Act; nothing less. Apply to the Registrar of the Medical Council, at the Offices, 315, Oxford-street, London.

Mr. F. T. Paul.—We shall be glad to receive the reports; but must insist upon their *brevity* to insure insertion.

Constant Reader.—We are obliged for the letter, but have not space.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: FELLOWSHIP EXAMINATIONS.

THE following were the questions on Anatomy and Physiology submitted to the thirty candidates at the primary examination for the Fellowship at the Royal College of Surgeons of England on the 15th instant, when they were required to answer, from 1.30 to 5.30, all four questions:—

1. Describe the dissection required to expose the upper surface of the first rib; and mention, in order from before backwards, the several structures in immediate relation with that bone.

2. A transverse vertical section is made through the cranium and its contents, passing through the odontoid process. Mention, in order from above downwards, the several structures which would be divided.

3. Describe the development of the vertebral column, and mention the form of the vertebral centrum characteristic of each of the primary divisions of the vertebrata.

4. Describe the structure of the supra-renal capsule, and give the evidence which at present exists regarding its function.

Mr. Alex. Davidson.—Apply to the Medical Council Office, 315, Oxford-street.

CARBOLIC ACID IN SMALL-POX.

To the Editor of THE LANCET.

SIR,—Various matters have prevented me from answering a query which was put some weeks ago, as to whether any, and, if any, how many, cases of unvaccinated patients who recovered were treated by me in 1870 with the application of the carbolic ointment, the recipe of which I sent to THE LANCET.

In my first letter on this subject I stated that I kept no notes of the cases, and expressed reluctance to give my experience on that account. But my memory serves me well enough to answer the query, which is a very pertinent and important one, syllogistically thus:—*All* patients who were painted with the ointment, and who recovered, escaped pitting. Some of these patients so treated were unvaccinated. Therefore unvaccinated patients escaped pitting when painted with the ointment.

The gentleman who put the question had used carbolic-acid lotion, but without success, in cases where there had not been previous vaccination, and he very correctly said that even in the most imperfectly vaccinated there was a distinct and perceptible modification of the small-pox. He concluded that in unvaccinated cases the application of carbolic acid will not prevent pitting. But I would submit there is a considerable difference between a lotion and the ointment which I used. A lotion dries up, whereas the lard and glycerine in the ointment keep it moist. A lotion to some extent allows the passage of air-germs; but everyone who has read Professor Tyndall's experiments knows that glycerine readily catches and retains bacteria, and that it is glycerine which he uses for that purpose. *A priori* we should expect the ointment to act better than a watery solution. But I prefer facts to *a priori* reasoning; and I can only repeat the fact that the ointment was successful equally with the unvaccinated as with the more or less vaccinated. Instead of attempting the hypothetical suggestions of Drs. Eade and Lowe, I think it would be well for experimenters first to try the ointment on unvaccinated cases.

I think there is no discredit to Dr. Bell as a discoverer, although he was not the first to find the uses of carbolic acid. Leibnitz and Newton both claimed the discovery of fluxions; Le Verrier, of Paris, and Adams, of Cambridge, independently discovered the planet Neptune; and in these days Graham, Bell, and Edison all lay claim to the invention of the telephone. And no doubt the properties and uses of carbolic acid were independently discovered by different investigators.

Your obedient servant,

Nov. 5th, 1878. THORBURN PATERSON.

To the Editor of THE LANCET.

SIR,—I regret exceedingly that, owing to pressure of work, it has been impossible for me to reply to your remarks anent the first application of carbolic acid in small-pox. I have referred to THE LANCET of Jan. 25th, 1868, and find that Dr. Yates, of Kingston, Canada, had applied it in one case; but until I read your remarks on the subject I must confess I was not aware that carbolic acid had been used in this disease before my own experience of its value as a therapeutic agent. But, notwithstanding the meagre notes Dr. Yates gives of his having used it, I must claim for myself the credit of having really established the fact that it has been proved to be the most powerful remedy we possess in this loathsome disease, and for this reason, that my mode of applying it is the simplest and most cleanly, and because I have proved it to be of service by giving a history of several consecutive cases, all of which were benefited by it, and every one of which was enabled to go on to convalescence without a vestige of secondary fever. Surely an isolated case treated by a certain method should never be accepted as proof of a remedy being really efficacious. Moreover, my article was allowed to go unchallenged, and some of the most eminent British and Continental authorities have testified that until my paper on the subject appeared they knew nothing of the remedy. Permit me to add that, being one of Professor Lister's assistants in the Glasgow Royal Infirmary whilst his experiments on the beneficial effects of carbolic acid were being carried on, and having experienced in my own person the effects of the eruption of small-pox, I concluded that as carbolic acid proved itself to be an anodyne in traumatic cases, it would also allay the great irritation of the eruption of variola, and so I was led to try it, and with the results that have been described. Of course I would not for a moment wish to detract from Dr. Yates one iota of the credit that is due to him as having been the first to use the remedy; at the same time I think it only fair to myself to maintain that, had not my paper on the subject appeared, it would not now be so universally adopted as a mode of treatment in this disease. I think I need hardly say that my conclusions regarding the efficacy of the treatment were arrived at quite independently of any other observer. I am, Sir, yours sincerely,

Glasgow, Nov. 13th, 1878. ROBT. BELL, M.D.

*** The subject is now, we may assume, thrashed out, and may be left with the rejoinder printed above.—ED. L.